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**Socially Sustainable Neighborhoods:
Special Reference to the Egyptian Context**

A Thesis Submitted to
The Graduate Program in Sustainable Development

in partial fulfillment of the requirements for
the degree of Master of Science in Sustainable Development

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January 2018

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Dedication

This thesis is dedicated to my beloved Grandfather Mahfouz who is the source of inspiration to all the family, to my father Omar my mentor who I look up to, to my three brothers Abdelrahman, Mahfouz and Mohamad whom I admire, to my two daughters Laila and Safeya for always giving me hope, and most importantly to my mother Akila for the unconditional love and tenderness; thank you for being my mother, my true friend, and my ultimate support system.

Abstract

Urban social sustainability has become one of the rising topics drawing the attention of urbanists and policymakers all over the world. Yet, in Egypt, the concept is not given enough consideration in the current urban development context. It is still quite immature in both theory and practice, especially in new cities where social problems can be challenges to the sustainability of communities. In addition, a neighborhood is found to be a critical urban scale that affects both individuals and the society as a whole. Therefore, this research sheds light on the importance of embracing the concept of urban social sustainability within the neighborhood scale as a way of achieving a better overall urban sustainability in Egypt. The research questions the factors that build a socially sustainable neighborhood and their relevance in the context of Egyptian new cities. To answer this, a comprehensive literature review was conducted and a qualitative methodology was adopted. Research tools such as face-to-face interviews and direct observations were used in a case study analysis to achieve a clearer understanding of the concept within the Egyptian context. The findings revealed that the selected case study - South Academy A in New Cairo City - has poor social sustainability mainly because of factors embedded in its urban form and planning, in addition to the centralized urban governance system; both have resulted in limited accessibility and low community wellbeing. The findings also highlight the importance of the urban form dimension as a basic principle in achieving a socially sustainable neighborhood, and it calls for a paradigm shift in the current Egyptian urban planning and policymaking. Conclusively, the research proposes a guiding framework and a set of recommendations that could be utilized in an attempt towards a more socially sustainable urban situation in Egypt.

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CHAPTER 1: INTRODUCTION

Chapter 1: Introduction

1.1 Research Problem

The current intense urbanization of the world has led to various adverse consequences and urban challenges in most countries. Social problems, such as community breakdown, along with others (environmental and economic problems) have been associated with contemporary urban practice that is not guided by the needed sustainable planning (Cuthill, 2010).

The limited understanding of sustainable urban development and specifically the contested pillar of social sustainability added more complexity to such problems resulting in further decline in our neighborhoods and hence affecting the overall sustainable development. This is because no city can contribute to overall sustainability unless its smaller cells or neighborhoods are considered sustainable (Choguill, 2008). Even though, ‘a socially sustainable neighborhood’ is a basic integral pillar for the overall urban sustainability of a country, the operationalization of the notion is challenging and found to be non-existent in the social and sustainable urban development literature (Hemani & Das, 2016).

Neighborhood social problems that exist in the literature are many and vary from one place to the other; for example, social isolation and exclusion, lack of cohesion, insufficient access to basic services or amenities, lack of open spaces, urban spaces with low quality of life, crime and safety problems. In addition, the deterioration of social capital has become another consequence threatening the urban societies to a great extent. Putnam (2000) describes this kind of urban mode as ‘social crisis’, and accordingly there is a need for addressing it by sensible policies and sustainable planning to strengthen the connection and participation among citizens, and to rebuild the social capital again in cities (LeGates & Stout, 2003).

For this reason, social sustainability has been given significant recognition recently by urban policy makers and planners in the developed world countries (Colantonio, 2010). Also, community sustainability has become a basic urban planning objective in the western agendas (Ercan & Ozden, 2014). However, this is not the case in the developing countries such as Egypt where there is still very little known about social aspects of sustainability (Dave, 2011). Since cities are vital for realizing sustainable development, the need for its sustainability is indispensable for the developing world countries which are suffering from rapid urban growth, lack of resources and severe urban challenges (Hemani & Das, 2016).

As a matter of fact, concerns about neighborhood social problems are not new. The initiative about combating these problems begun some decades ago when the urban development in the West countries was adopting modernist approaches that led to the so called ‘social crisis’. The urban life style back then resulted in various adverse impacts such as: declining the social significance of the family, weakening of kinship bonds and the disappearance of the neighborhood (LeGates & Stout, 2003). As a reaction to this, prominent sociologists and urbanists whose ideas are still being rediscovered until today criticized these urban phenomena and came up with new revolutionary urban planning theories and movements such as New Urbanism movement¹.

Out of these scholars is Louis Wirth (1938) who interpreted “urbanism as a way of life” and Lewis Mumford who emphasized the missing community values and the role of the city in developing the human personality (LeGates & Stout, 2003). Jane Jacobs (1961) also advocated for place-based and community-centered approaches to urban development. Her book “The Death and Life of Great American Cities” was an attacking hit to urban planning and policy at that time and it was a foundational political call for more livable and vibrant neighborhoods. More recent scholars such as: Robert Putnam (2000) who has been called “the most influential academic in the world today” (LeGates & Stout, 2003) pictured the decline of social capital by describing the strange phenomenon of “bowling alone” as a metaphor for contemporary urban life style in the United States and many other countries.

These scholars came up with various ideas and contradictory theories reflecting on urban conditions and problems at their time. Indeed, each one has a way to approach their context, and at the end, there is no one utopian urban theorist that will be agreed upon by all the others. In fact, the real problem is reflected in the resulted urban planning, that has been implemented in many cities of the world, which although combines different urban theories, it fails to achieve urban sustainability and the real community objectives.

Numerous new settlements are being planned and developed on the global level in a vast scale. The past experiences from different countries of the world highlighted the fragility and weak social structure of such new communities. Hence, there is a pressuring need to build a strong understanding and commitment to create socially as well as economically and environmentally sustainable cities (Woodcraft, Hackett, & Caistor-Arendar, 2011).

¹ For information about New Urbanism planning movement, refer to <http://www.newurbanism.org/>

1.2 Research Context

Egypt experienced the development of new urban communities which started in the mid-1970s as a response to rapid urbanization and the high population growth. New urban communities were considered the adequate solution to stop the encroachment of agricultural land, improve the deteriorating urban fabric and provide better living quality. However, their present condition points out their limited success in achieving sustainable urban development (Abdel-Kader & Ettouney, 2013). The Egyptian authorities adopted modern neighborhood planning with socio-spatial characteristics different than traditional cities which unfortunately resulted in many development problems in the social and spatial fabrics of these new cities (Ghonimi, 2017).

Today, according to the New Urban Communities Authority, NUCA, Egypt has 32 new satellite cities with total area about million and hundred acres, the total built up area of these cities is 434.8 thousand acres (NUCA, n.d.). Among these so-called desert cities, New Cairo city and Sixth of October are included in the Greater Cairo Region and were developed in the eastern and western edges of Cairo. In addition, the country's policy of invading the desert is still in effect and a new city called the New Administrative Capital, which is neighboring to New Cairo, has been announced over the media and is currently in the planning process (Khorshed, 2017). These Egyptian new cities have followed a suburban development pattern which prevented them from being self-sustaining or independent from the nearby core cities (Khorshed, 2017).

Suburban sprawl (or urban sprawl) is another form of urbanization which generally refers to the spreading of cities over surrounding land or the shift of populations from city centers to suburbs. It involves lower densities development and single-use zoning where residential areas are separated from commercial and industrial (Smith, 2008). Sprawl has been associated with various negative consequences opposing sustainability such as environmental degradation, increased living costs, health and social fragmentation (Hemani, Das, & Chowdhury, 2016). Suburban sprawl causes social and physical discontinuity in people's life where communities become less engaged and connected hence, affecting the stock of social capital negatively (Rogers, Aytur, Gardner, & Carlson, 2012). Putnam (2000) explains that the fracture in spatial integrity of the people's life and the time, effort and money spent in commuting between the different places such as home, work and leisure made people less willing to become involved in their local neighborhoods.

In Egypt, the concept of neighborhood sustainability is not as well established or defined as in the western literature. Little research has been conducted on socially sustainable neighborhoods in the Egyptian context. Our research found no published or peer reviewed papers concerning this issue in specific except for some dissertations and research papers in the libraries of local universities. The country's profile regarding urban sustainability or sustainable development is very weak. For instance, even though there is a sustainable development strategy called Egypt Vision 2030² which was devised to direct the country towards the Sustainable Development Goals SDGs³, it was criticized of being fuzzy and vague having many targets but limited in details on how the government is planning to achieve them (Esterman, 2016). It presents social sustainability in a shallow way and seems to lack many important concepts (such as urban social sustainability and the significance of the neighborhood scale) in its urban development report (Egypt's Vision 2030, 2016) and other relevant documents.

² For more information on Egypt Vision 2030, refer to <http://sdsegypt2030.com/?lang=en>

³ For more information on SDGs, refer to <https://sustainabledevelopment.un.org/sdgs>

1.3 Research Justification

Since “the people are the city” as stated by Shakespeare (2010), conducting research in the urban development discourse generally is seen to serve a noble goal. Although the discourse of sustainable urban development and planning has been improving significantly in the last decades in the developed world, most of the urban policy making and planning that is done in developing countries like Egypt is still following old conventional approaches with little or no regard to the concept of social sustainability. This was observed in new cities developed in the country such as New Cairo where the social structure is quite questionable.

The conducted literature review highlights the critical importance of achieving a socially sustainable neighborhood to overcome urban social problems and achieve overall sustainable development. It is mainly based on western academia which is rich with applied studies in its neighborhoods regarding various concepts. The need for similar studies in Egypt is vital since such contextual issue is absent. In conclusion, a knowledge gap is found regarding both research and practice of the socially sustainable neighborhood notion.

This research would benefit urbanists and policy makers so that they would comprehend the social structure and challenges in the existing new cities of Egypt and start considering them in the future. It should open the door for the operationalization of such a contested concept in our Egyptian context. Consequently, this would result in a better quality of life for the citizens and overall sustainable development of the country.

1.4 Research Objectives and Questions

The holistic goal of this research is to support the development of sustainable urban communities in Egypt specifically from the social perspective. To achieve this, the study aims to:

- Clarify the contested concept of urban social sustainability within the neighborhood scale and situate its importance within the urban development literature.
- Develop a guiding framework from the literature review to be the first building block for achieving socially sustainable neighborhoods in new cities of Egypt.
- Explore the social dimension of the neighborhoods in the Egyptian new cities by analyzing a case study neighborhood in New Cairo city through which the developed guiding framework will be tested.
- Provide recommendations for existing and new neighborhoods to be more socially sustainable.

To reach these objectives, the research will attempt to answer the following questions:

Main question:

- What are the factors that build a socially sustainable neighborhood and how far does it exist in Egyptian new cities?

Sub questions:

- What is the definition and role of a sustainable neighborhood? And how does it relate to the notion of social sustainability?
- What are the principles of ‘a socially sustainable neighborhood’ and how can the built environment nurture it?
- How can we initiate and strengthen the social sustainability of our new urban communities in Egypt (e.g. New Cairo)?

1.5 Research Layout

The research begins with a literature review to understand and situate the ambiguous concept of ‘socially sustainable neighborhood development’ within the urban sustainability discourse. A conceptual framework is then drawn out of this literature review, which is followed to guide the methodology that is used in the case study analysis. The case study is examined through interviews, questionnaires, field observations and spatial analysis conducted by the researcher. Findings are then discussed and finally, conclusions and recommendations are presented.

CHAPTER 2: LITERATURE REVIEW

Chapter 2: Literature Review

2.1 Introduction

To answer the above-mentioned research questions, this chapter attempts to clarify the concept of urban social sustainability within the neighborhood scale. It starts by introducing the subject of urban sustainability, then it presents some of the neighborhood theories and definitions. It demonstrates the different ways of defining a socially sustainable neighborhood, however, it focuses on defining the notion through a list of principles that can be operationalized on the real ground instead of only theoretical explanations. It also discusses the relationship between the urban form and social sustainability. Finally, it illustrates examples of social sustainability frameworks that were done by different scholars.

2.2 Urban Sustainability

During the past century, many countries worldwide had witnessed tremendous economic growth which was coupled with globalization, technological advancements and rapid urbanization. This rapid urban growth contributed to adverse social and environmental impacts, especially in the developing world, that made policymakers and planners resort to sustainable urban development (Hemani & Das, 2016).

To understand what is urban sustainability we should first agree on what does ‘urban’ mean in the discourse of policy making. Urban policy is a general term which is mainly about the activities of a government in a certain urban area or in other words within a city. It is concerned with the welfare of the local people living in a specific area (Blackman, 1995). However, defining terms related to human settlements is hard and inconsistent on the international level as different countries use different systems to define what is an urban area. Each country has its own definition according to which it collects data, this results in making direct comparisons between countries more difficult (Deuskar, 2015). An urban area can be defined by one of the following: administrative criteria or political boundaries, population size, population density, economic function or the presence of urban characteristics like paved streets, electricity and sewage (unicef, 2012).

Urban areas are used to assess sustainability and at the same time they can efficiently promote sustainability to citizens (Berardi, 2013). Sustainability is also a very broad term with various meanings and definitions that are given within the different mainstreams. Hundreds of definitions exist in controversy and even more are developed everyday but usually such

definitions are not complete and miss some of the possible meanings (Berardi, 2013; Dempsey, Bramley, Power, & Brown, 2011; Smith, 2008).

The most widely accepted definition of sustainable development is, foremost, the one set by the UN in its World Commission on Environment and Development report in 1987 which says that it is “the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs” (World Commission on Environment and Development, 1987) cited in (Castro, 2004).

Accordingly, cities are said to be sustainable only if they meet the present needs of the people living in them without compromising the ability of future generations to meet their own needs. A city cannot function by itself; it is a part of bigger system: a region and a whole country. At the same time, no city can contribute to sustainability if its smaller units are not functioning towards sustainability (Choguill, 2008).

Urban Sustainability also involves achieving the two overarching conditions of inter-generational equity and intra-generational equity. The former is mainly concerned with the future generations who should be able to find resources not less than their previous generations. The latter focuses on current generations who should all have equitable access to the resources and basic needs like shelter, adequate nutrition, water, sanitation and employment (Vojnovic, 2014).

Many scholars believe that the term ‘urban sustainability’ as ‘sustainable development’ is a relative concept depending on where or why is it mentioned and what is being assessed (Hassan & Lee, 2015). According to Vojnovic (2014) , there are some benefits in not having an exact accurate definition for urban sustainability as each country becomes flexible to conceptualize it according to its own culture, values and unique urban challenges.

In this paper, ‘urban sustainability’ is considered the main goal of any urban development that takes place. The terms: ‘sustainable urban development’ and ‘urban sustainability’ are used interchangeably.

2.3 Neighborhood

2.3.1 A Neighborhood or a Community

Although a neighborhood concept has many theories that has been put forward, there is a difficulty in defining what a neighborhood is exactly since it is normally hard to translate unbounded theories into a concrete form. Each neighborhood differs in size, nature and appearance (Jenks & Dempsey, 2007). The US National Commission on Neighborhoods defines a neighborhood as “what the inhabitants think it is” (White, 1988).

The term neighborhood originates back to the fifteenth century and it refers to both a physical area and the residents of a specific area in both rural and urban areas. Recently, the term has been used in urban areas only (Jenks & Dempsey, 2007). There are various definitions for a neighborhood (Choguill, 2008), many of which explain a neighborhood as a physically bounded area that has a certain degree of homogeneity and social cohesion between its inhabitants (White, 1988). Also, neighborhoods are cells from which the bigger city is formed (Ercan & Ozden, 2014).

A research team in New Zealand has an elaborated definition which states that a neighborhood is a cluster of dwellings that enclose residential and non-residential functions. It includes different activities like recreation, work, shopping and education. Neighbors connect and share the infrastructure and services within their neighborhood. Boundaries of the neighborhood are not usually well defined but people should be able to identify them most of the time (Bijoux, 2012). In fact, Each neighborhood has its own social organization and physical qualities that affect the human development and health of its community (Raudenbush, 2003).

A community is usually defined as a group of people who are sharing same place or having something in common (Smith, 2008). The term is debatable and explained by many theories as a physical setting for social life and again as a non-physical concept (Jenks & Dempsey, 2007). Most literature in the field relate communities to places and their physical settings (Jenks & Dempsey, 2007; Smith, 2008). Also, some scholars use the term interchangeably with the term ‘neighborhood’ (Jenks & Dempsey, 2007). As a matter of fact, a community is where a citizen would find the nearest natural environment, social network and economic market (Berardi, 2013).

The notion of ‘sustainable community’ is quite essential within the field of urban studies. Urban planners, designers and policymakers should consider the urban community as their

main focus in order to reach more sustainable cities in terms of society, culture, environment and economy (Ercan & Ozden, 2014).

Forrest (2008) approaches the concept of neighborhood from different angles which are: as a community, as a commodity, as a consumption niche and as a context. He also explains that there is no main definition for the concept of neighborhood; sometimes a neighborhood is only an administrative boundary, in other contexts it is socially constructed over time through the life experiences of residents and users. Moreover, a neighborhood is considered a rich laboratory for social investigation (Forrest, 2008)

2.3.2 A Significant Scale

The built environment is where the human activities take place and each scale starting from the smallest shelter; a room or a house, to the bigger city or region would affect overall sustainability in a certain way (Bijoux, 2012). A neighborhood can be considered the smallest unit in the social and political organization of a city (White, 1988) and the main center of action (Hemani & Das, 2016). It is an important urban scale that is felt by people physically and socially because it is where people live their everyday life (Smith, 2008). People feel a sense of belonging and attachment to their neighborhood where residents, visitors and business owners interact together daily (Bijoux, 2012).

From the physical perspective, neighborhoods can be defined as buildings, spaces around them and infrastructure. A sustainable neighborhood would mean that all what it encompasses is sustainable; at the same time, every neighborhood in a city should be functioning in a sustainable manner to reach overall urban sustainability. Therefore, the neighborhood scale is an integral aspect between individual houses and bigger city system (Bijoux, 2012; Saville-Smith, 2007).

Currently, neighborhoods are seen as arenas for communities to practice participation and social rights that would allow for sustainable development to take place (Hemani & Das, 2016). Hemani and Das (2016) justified this increased focus on neighborhoods to be due to many reasons such as:

- The increased concern about the change in social fabric and decline in social bonds that occurred in cities due to globalization and rapid urbanization.
- The rising attention given to the issue of quality of life and its measurement where neighborhoods are the useful scale for studying such issue.

- The fact that neighborhood can affect both individual and collective well-being.
- The important role of local communities regarding social stability and economic competitiveness of cities.
- The increased interest in bottom-up approaches and recognizing that macro-scale sustainability is influenced by micro-scale efforts.

2.3.3 Neighborhood Theories

It is not a new trend that planners consider the neighborhood as an important urban scale (Choguill, 2008). Since the twentieth century, the notion of a neighborhood and its relation to the bigger city has been the concern of the American urban sociology (White, 1988). Initially, the concept of ‘garden cities’ created by Howard in 1898 was a reaction to his rejection to the over-crowded unpleasant British cities of his time (Choguill, 2008). Howard is known for the ‘new town movement’ in which the neighborhood or ‘the ward’ as he referred to was for the first time an integral principle of urban planning and practice. Howard proposed to establish urban and rural magnets by creating self-contained communities that are employment-generating. They should be surrounded by agricultural activities which were serving as green belts and protect them from outside encroachment (Choguill, 2008) see Figure 1.

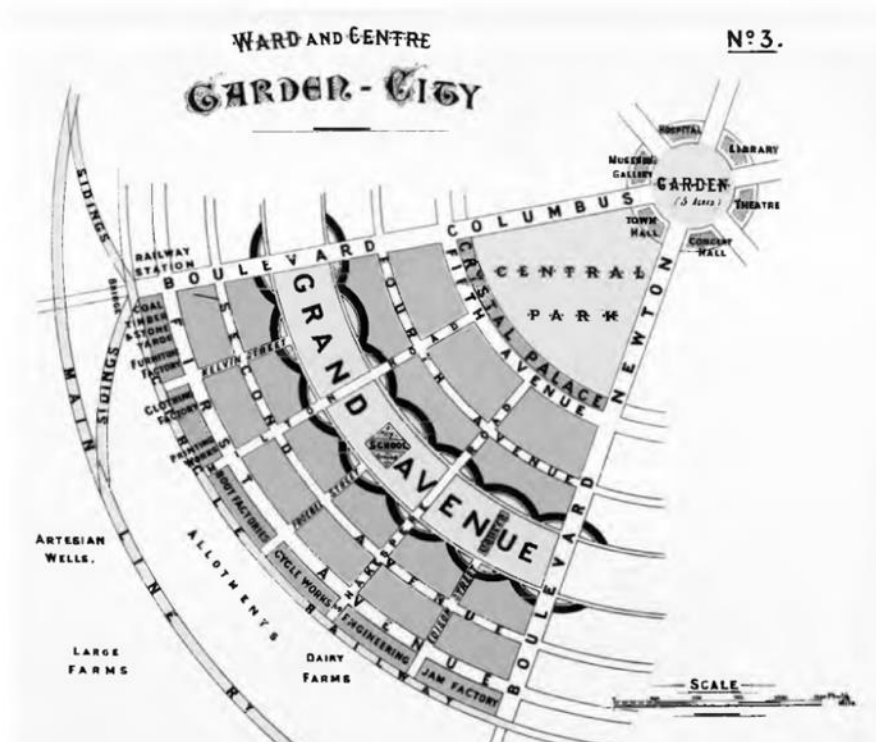


Figure 1 The Garden City by Howard, Source: (Hall & Ward, 2014, p. 18)

The concept of Howard was further developed by Clarence Perry in 1929 who created the famous neighborhood unit, see Figure 2. Perry's aim was to limit the disruptive vehicular traffic inside the neighborhood. He focused on the center which should have an elementary school beside its green area or playground and a local shopping center, in addition, it should be walkable and safe for children to reach. The streets inside the neighborhood unit should discourage cut-through traffic and the edges should be well defined with arterial fast-moving roads (Mehaffy, Porta, & Romice, 2015). Perry was concerned about community participation; he saw the school as a community center for the neighborhood residence to meet up. Perry's influence is still obvious until today as he was tackling both the physical measure of the neighborhood and the social cohesion measure which should be strengthened (Choguill, 2008; Lloyd Lawhon, 2009).

Clarence Stein and Henry Wright further developed Howard's and Perry's work in their planning of Radburn, a neighborhood in New Jersey known to be the first garden city in the USA. They created the 'super block' through which they separated the vehicular traffic from pedestrian routes and at the same time they disregarded the grid-shaped road networks. Stein and Wright grouped the residential units into cul-de-sacs which were accessible by pedestrian routes connecting them to the neighborhood center that had the school, park and shops without getting in contact with the cars. At the same time, they were linked to the main roads on the borders of the neighborhood through minor roads. Radburn is a popular neighborhood plan which was replicated throughout many places in the world (Choguill, 2008).

Mumford was a fellow supporter for Perry's neighborhood unit. Mumford argued that the neighborhood unit promotes the sense of belonging among the community. He also argued that size is an important factor to preserve positive social values. Several studies supported Mumford and found that as the size of the neighborhood increases, the less involvement the neighbors become in their neighborhood (Choguill, 2008). The size of the neighborhood unit had been tailored around the size of a walkable pedestrian area which is known to be half a mile or approximately 400 m (the radius of the circle inscribed) and a typical 5-minute walk. Major arterials are placed at the borders of the unit which means they are 800 m apart (Mehaffy et al., 2015).

The concept of the neighborhood unit is a debatable issue which until today faces many criticisms. One of the strong criticisms originally came from Jane Jacobs as she argued against the residential superblocks concept of Perry and his fellows. She named her argument as "the

curse of border vacuums” since these arterial roads were considered edges against the cross movement of diverse populations and hence negatively affect the city mobility and fluidity (Mehaffy et al., 2015). Others question the neighborhood unit planning as they view it inefficient with regard to viable transportation systems, cross neighborhood walkability, social diversity, movement economics and other critical parameters (Mehaffy et al., 2015). As a matter of fact, some people claim that false interpretations of Perry’s neighborhood unit are the reason behind the segregation of land and car-dependent suburbs that exist in our present days (AEP, 2014).

Afterwards, in 1993 New Urbanism which is an urban design movement was founded to respond to the prevailing urban sprawl that had been transforming the fabric of cities into car dependent isolated suburbs (“CNU,” 2015). New Urbanism advocates creating more compact walkable mixed-use neighborhoods and its principles are articulated in the Charter of New Urbanism⁴ (Congress for the New Urbanism) (Trudeau, 2013). Since that time, the New Urbanism ideas have developed progressively into different but related approaches which include: Traditional Neighborhood Design, Smart Growth, Urban Villages and Transit Oriented Developments (Davies & Townshend, 2015).

⁴ For the list of detailed principles, refer to <https://www.cnu.org/who-we-are/charter-new-urbanism>

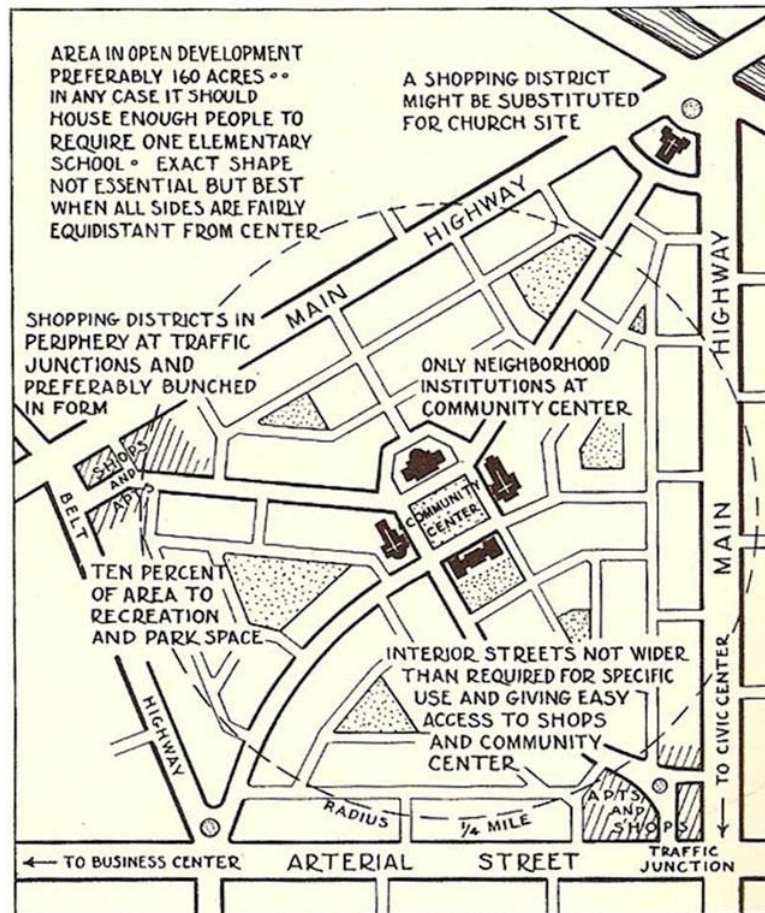


Figure 2 The Clarence Perry neighborhood unit diagram. Source: New York Regional Plan, Vol. 7 cited in (Mehaffy et al., 2015, p. 200)

2.3.4 Sustainable Neighborhood

As Berke (2002) said “Think globally, act locally”. The concept of sustainable neighborhood is about integrating local to regional and global perspectives, while at the same time maintaining the social, economic and environmental perspectives up to a sustainable level through long term visions and short term actions (Bijoux, 2012). Because of the various undefined terminologies explained earlier, a sustainable neighborhood is also hard to define. Throughout the literature, there are diverse explanations and applications of the sustainable neighborhood concept, however, there are main attributes considered as common ground as presented in Table 1.

Because of the significance of the neighborhood scale, Ercan and Ozden (2014) stated that the concept of sustainable neighborhood is quite tangible to the people as they can see and feel the environment and the community within. A sustainable neighborhood should offer a quality physical environment that embodies strong socio-cultural networks (Ercan & Ozden, 2014)

and guarantees quality of life to its residents (Chan & Lee, 2008). Safe living is also considered a main attribute for sustainable neighborhoods in most literature (Jenks & Dempsey, 2007).

**Table 1 Built environment attributes for a more sustainable neighborhood.
Summarized from (Bijoux, 2012)**

<ul style="list-style-type: none"> - housing and neighborhood satisfaction - adequate physical appearance - safety in the streets from both traffic and other people - low noise - access to facilities and services - affordable and manageable mobility - friendly social relations - participation in local actions - low tenure mix - improved neighborhood walkability - good public spaces - flexibility and adaptability - increasing the urban density

2.4 Socially Sustainable Neighborhood

2.4.1 Urban Social Sustainability

After comprehending what is a neighborhood and the importance of its sustainability for the overall sustainable development of a country, our study will proceed by focusing only on the social pillar of urban sustainability. This chapter attempts to answer the research question of what is a socially sustainable neighborhood by exploring the concepts and attributes to operationalize social sustainability concept within the urban discourse, specifically in the neighborhood scale.

Social sustainability is now considered an indispensable concept within the sustainable urban development literature, while at the same time, it is still contested and unclear for many people (Dave, 2011; Hemani & Das, 2016; Omann & Spangenberg, 2002). Although the literature has many studies regarding the neighborhood as a geographic scale, the attention to the concept of social sustainability per se within such scale has been limited (Dempsey et al., 2011; Hamiduddin, 2015). Initially, all the focus was mainly on urban environmental issues but recently, social issues are becoming more relevant (Weingaertner & Moberg, 2014).

Many scholars argue that social sustainability is neglected compared to the other two main pillars of sustainable development: economy and environment (Colantonio, 2010; Dave, 2011;

Hamiduddin, 2015; Omann & Spangenberg, 2002; Woodcraft et al., 2011). Some see that this neglect is the reason for being the least conceptually developed (Cuthill, 2010). Being intangible and context dependent, social sustainability has limited literature as it faces theoretical and methodological constraints (Colantonio, 2010; Dave, 2011; Hemani & Das, 2016; NEAMȚU, 2012).

Assefa and Frostell (2007) claimed that social sustainability by itself is the final aim of development while economic and environmental sustainability are only instruments to realize it. Similarly, Cuthill (2010) explained that environmental problems are themselves social; since people are the ones being managed to control the natural environment and not nature itself. The economy likewise is meant to serve the people and to satisfy their social needs, therefore the whole sustainable development is seen as a social value. Ommann and Spangenberg (2002) explained the necessity of social sustainability because it is not only a main pillar for sustainable development by itself but because it is an essential precondition to achieve the other two pillars: economy and environment.

2.4.2 Social Sustainability Concepts

When trying to define the term social sustainability, it is found that the concept is vague and contested in its meaning and application where each person comprehends it differently according to their own disciplines and objectives. As a result, there is no standardized set of criteria that can be generalized for the concept (Bramley, Dempsey, Power, & Brown, 2006; Colantonio, 2010; Hamiduddin, 2015; Weingaertner & Moberg, 2014; Yoo & Lee, 2016). Dempsey et al. (2011) consider it a dynamic concept that changes over time and does not have a constant or absolute meaning. Despite the variations in understanding the concept, there is a common agreement that “social sustainability is about improving or maintaining the quality of life of people”(Weingaertner & Moberg, 2014). Table 2 illustrates some of the common definitions given for social sustainability. A comprehensive definition that focuses on urban environments is the one set by Polese and Stren (Fourth definition in Table 2) which is discussed in several prominent studies (Bramley et al., 2006; Colantonio, 2010; Hamiduddin, 2015; Hemani & Das, 2016; NEAMȚU, 2012 and others). Neamtu (2012) described this definition as one of the most complex explanations as it emphasizes the three pillars of sustainable development and their interdependence. In addition, it represents social sustainability in terms of both “the collective functioning of society and individual quality of life issues”(Hemani & Das, 2016, p. 152). The definition is found to be highlighting the trade-

offs that exist between development and society while acknowledging the importance of physical environment such as housing and urban spaces (Colantonio, 2010).

Table 2 Definitions of social sustainability. Source: (Colantonio, 2010, p. 80)

Definition	Reference
A strong definition of social sustainability must rest on the basic values of equity and democracy, the latter meant as the effective appropriation of all human rights – political, civil, economic, social and cultural – by all people	(Sachs,1999)
...a quality of societies. It signifies the nature–society relationships, mediated by work, as well as relationships within the society. Social sustainability is given, if work within a society and the related institutional arrangements satisfy an extended set of human needs [and] are shaped in a way that nature and its reproductive capabilities are preserved over a long period of time and the normative claims of social justice, human dignity and participation are fulfilled	(Littig & Grießler, 2005)
[Sustainability] aims to determine the minimal social requirements for long-term development (sometimes called critical social capital) and to identify the challenges to the very functioning of society in the long run	(Biart, 2002)
Development (and/or growth) that is compatible with harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population	(Polese & Stren, 2000)

Colantonio (2010) also argued that social sustainability is about how individuals or communities live with each other and achieve the development goals that they have chosen for themselves while keeping a good eye on their environment. To understand this on a more operational level, it can be translated into key themes which should blend different principles or objectives for the development of each society. *This will be explained in the next section.*

Bacon, Cochrane, Woodcraft, and Brown suggested that a socially sustainable neighborhood would involve supporting both individual and collective wellbeing of its community. It is the combination of: the design of the physical environment and the development and function of its community who live in. It should be enhanced by providing the adequate infrastructure that allows for social and cultural activities, participation and evolving of the whole community.

It is assumed that the public sector specifically local authorities together with other stakeholders involved in the urban governance process are all responsible for acting towards social sustainability. However, in real life there is no actor who is assigned explicitly with a task to promote social sustainability and it is usually disregarded in the planning process or urban development projects (Weingaertner & Moberg, 2014). Therefore, Weingaerten and Moberg (2014) proposed a ‘methodology of questioning’ while addressing social sustainability issues as illustrated in Table 3 , through which a systematic answer would help setting priorities and define stakeholders for a particular context.

Table 3 Handling a social sustainability issue and defining stakeholders. Summarized from (Weingaertner & Moberg, 2014)

Question	Indication
What?	The aspect
Why? For whom?	Target group / stakeholders
How?	Strategies
By whom?	Agent for change
When?	Timing

2.4.3 Social Sustainability Attributes

A vital aspect to this research is what was crystalized by other scholars who tried to define social sustainability by listing key themes instead of conceptual or descriptive sentences. Despite the lack of consensus which is evident in the many definitions, terminologies, and objectives found in past literature, there is a good effort done by many recent researchers to help understand the concept by providing key themes which can be operationalized within a neighborhood or a specific urban area. However, generalizing the attributes would not be applicable, and care should be given always to local settings and context of each urban area or neighborhood (Weingaertner & Moberg, 2014). Weingaertner & Moberg (2014) suggested that key themes should be classified under the core concepts of social capital, human capital and wellbeing as they tend to be regarded in both individual and collective issues that are related to social sustainability.

Colantonio (2010) provided a chronological list of attributes as seen in Table 4 where he argued that ‘traditional’ themes or which he named as ‘hard concepts’, such as: equity, poverty reduction and environmental health are not the only focus anymore despite being fundamental. Instead, emerging ‘intangible’ or less measurable themes, which he named as ‘soft concepts’

such as: happiness, sense of place and social capital, are becoming more vital in the social sustainability debate, See Table 5. Colantonio (2010) believes that this shift in social themes reflects the need for these soft attributes in our current societies. Nevertheless, these soft attributes result in a more complex definition of social sustainability as they are much difficult in measuring and operationalizing. Therefore, this results in a change in the assessment methodology which is currently turning from purely quantitative methods to be more qualitative (NEAMȚU, 2012).

Table 4 Chronological Key themes for the operationalization of social sustainability.
Source: (Colantonio, 2010, p. 81)

Feature	Reference
Livelihood Equity Capability to withstand external pressures Safety nets	Chambers and Conway (1992)
Inclusion Equity Poverty Livelihood	DFID (1999)
Equity Democracy Human rights Social homogeneity Equitable income distribution Employment Equitable access to resources and social services	Sachs (1999)
Paid and voluntary work Basic needs Social security Equal opportunities to participate in a democratic society Enabling of social innovation	HBF (2001)
Social justice Solidarity Participation Security	Thin et al. (2002)
Education Skills Experience Consumption Income Employment Participation	Omann and Spangenberg (2002)
Basic needs Personal disability Needs of future generations	Baines and Morgan (2004) Sinner et al. (2004)

Social capital	
Cultural and community diversity	
Empowerment and participation	
Interactions in community/social networks	Bramley et al. (2006)
Community participation	
Pride and sense of place	
Community stability	
Security	

Table 5 Traditional and emerging social themes or attributes. Source: (Colantonio, 2010, p. 82)

Traditional	Emerging
– Basic needs, including housing and environmental health	– Demographic change (ageing, migration and mobility)
– Education and skills	– Social mixing and cohesion
– Employment	– Identity, sense of place and culture
– Equity	– Empowerment, participation and access
– Human rights and gender	– Health and safety
– Poverty	– Social capital
– Social justice	– Wellbeing, happiness and quality of life

Another classification for the social sustainability attributes is the one done by Dempsey et al. (2011). For them, the definition of social sustainability should be answering the basic question which is “what are the social goals of sustainable development?” As they tried to situate social sustainability in the urban context, they provided a list of factors that were discussed earlier by theorists and practitioners in the field. Their list is divided into predominantly physical factors and non-physical factors that both contribute to urban social sustainability, seen in Table 6. More importantly is that physical factors can shape and influence the non-physical factors directly or indirectly and vice-versus although relationships vary according to different scales (Yoo & Lee, 2016).

Table 6 Social sustainability attributes classified as physical and non-physical. Source: (Dempsey et al., 2011, p. 291)

Predominantly Physical Factors	Non- Physical Factors
<ul style="list-style-type: none"> - Urbanity - Attractive public realm - Decent housing - Local environmental quality and amenity - Accessibility (e.g. to local services and facilities/employment/green space) - Sustainable urban design - Neighborhood - Walkable neighborhood: pedestrian friendly 	<ul style="list-style-type: none"> - Education and training - Social justice: inter- and intra-generational - Participation and local democracy - Health, quality of life and well-being - Social inclusion (and eradication of social exclusion) - Social capital - Community - Safety - Mixed tenure - Fair distribution of income - Social order - Social cohesion - Community cohesion (i.e. cohesion between and among different groups) - Social networks - Social interaction - Sense of community and belonging - Employment - Residential stability (vs turnover) - Active community organizations

2.4.3.1 Social Sustainability in terms of Sustainable Communities and Social Equity

One of the most widely accepted list of attributes for social sustainability is the one proposed by the scholars: Bramley, Dempsey, Power & Brown (2006) in their research about social sustainability and urban forms. The team proposed two main dimensions to the concept: the first is equity of access (regarding area distribution) and the second is sustainability of community (regarding quality of society). Since then, this list of key themes and its measurements for urban social sustainability have been used and cited in many studies such as: (Bramley, Dempsey, Power, Brown, & Watkins, 2009; Bramley & Power, 2009; Colantonio, 2010; Dave, 2011; Dempsey et al., 2011; Hamiduddin, 2015; Hemani & Das, 2016; NEAMȚU, 2012; Weingaertner & Moberg, 2014 and others). Additionally, it is considered one of the few which take into account the physical reality and sustainability perspectives that would be accordingly integrated into sustainable development policies and practices (Hemani & Das,

2016). Hamiduddin (2015) supports this definition arguing that the notions of sustainable communities and social equity have reinforced the social sustainability by giving it a structuring framework so that it would be more relevant for societies.

Based on academic and policy literature, Bramley et al. (2009, p. 2126) proposed that social sustainability can be divided into two main dimensions:

Social equity, with particular reference to access to services and opportunities

- Essential local services such as shops, schools, health centers;
- Recreational opportunities, open space;
- Public transport;
- Job opportunities;
- Affordable housing.

Sustainability of community, comprising a number of sub-dimensions including:

- Pride in and attachment to neighborhood;
- Social interaction within the neighborhood;
- Safety/security (vs. risk of crime, antisocial behavior);
- Perceived quality of local environment;
- Satisfaction with the home;
- Stability (vs. residential turnover);
- Participation in collective group/civic activities.

Although each attribute may seem as a different concept, relationships do exist between them where an attribute may reinforce the other or vice versus. For instance, when safety is high, it is found that social interaction is also high as people tend to interact when they feel safer (Bramley et al., 2009).

According to Bramley et al. (2009), the concept of sustainability of community is used by many scholars as 'quality of life'. They also believe that social interaction, safety, quality of environment and access to services definitely affect health and wellbeing of a community. There are direct and indirect relationships between these elements and health and wellbeing within a neighborhood

2.4.3.1.1 Social Equity (within the built environment)

Social equity is a basic principle in the field of social policy and sustainable development. It is about fairness or justice and it implies that people are enabled to share in economic, environmental and social benefits without any discriminatory or exclusionary practices that would stop them (Ratcliffe 2000; Pierson 2002 cited in Hemani & Das, 2016; Bramley et al., 2009). From the built environment perspective, social equity is critical at the local level, in our case the neighborhood scale, where it refers to availability and accessibility of basic services such as education, decent housing, public services, social infrastructure, open spaces, and cultural or recreational spaces (Dempsey et al., 2011).

Hemani & Das (2016) added ‘social inclusion’ to the term social equity in their proposed framework as illustrated in Figure 3. Social inclusion completes the meaning of social equity as it refers to the process of including all disadvantaged individuals or groups within the urban society, and improving their ability and opportunity to take a role and participate in their social, economic and political life (The World Bank, 2017).

In general, the dimension of availability and access to basic services and local facilities is one of the most critical components of social sustainability. Accessibility is widely accepted as a fundamental measure of social equity in terms of a neighborhood (Burton, 2000). It is not only concerned with social equity as a target by itself, it also influences the qualities that would result in the sustainability of community and wellbeing such as social cohesion, pride and attachment and stability. In fact, availability and accessibility are found to be significant to the residents which makes them more attached to their neighborhood and increase their length of stay, i.e., stability. (Hemani et al., 2016). The physical plan or the layout of the neighborhood has the greatest role in providing services by shortening travel distances and providing decent transportation methods. (Hamiduddin, 2015)

Accessibility is a broad concept by itself. It can be narrowed down to measuring: the number and range of services and facilities within an urban area, and the means of reaching them whether through walking, cycling, or public transport (Dempsey, Brown, & Bramley, 2012). As per Dempsey et al. (2011), empirical research conducted in England found that the most used local services in a neighborhood are: Doctor/GP surgery, Post office, Chemist, Supermarket, Bank/building society, Corner shop, Primary school, Restaurant/café/takeaway, Pub, Library, Sports/recreation facility, Community center, Facility for children, Public

open/green space. However, there is no clear agreement on the optimal distances at which the services would be provided for the residents (Dempsey, 2009).

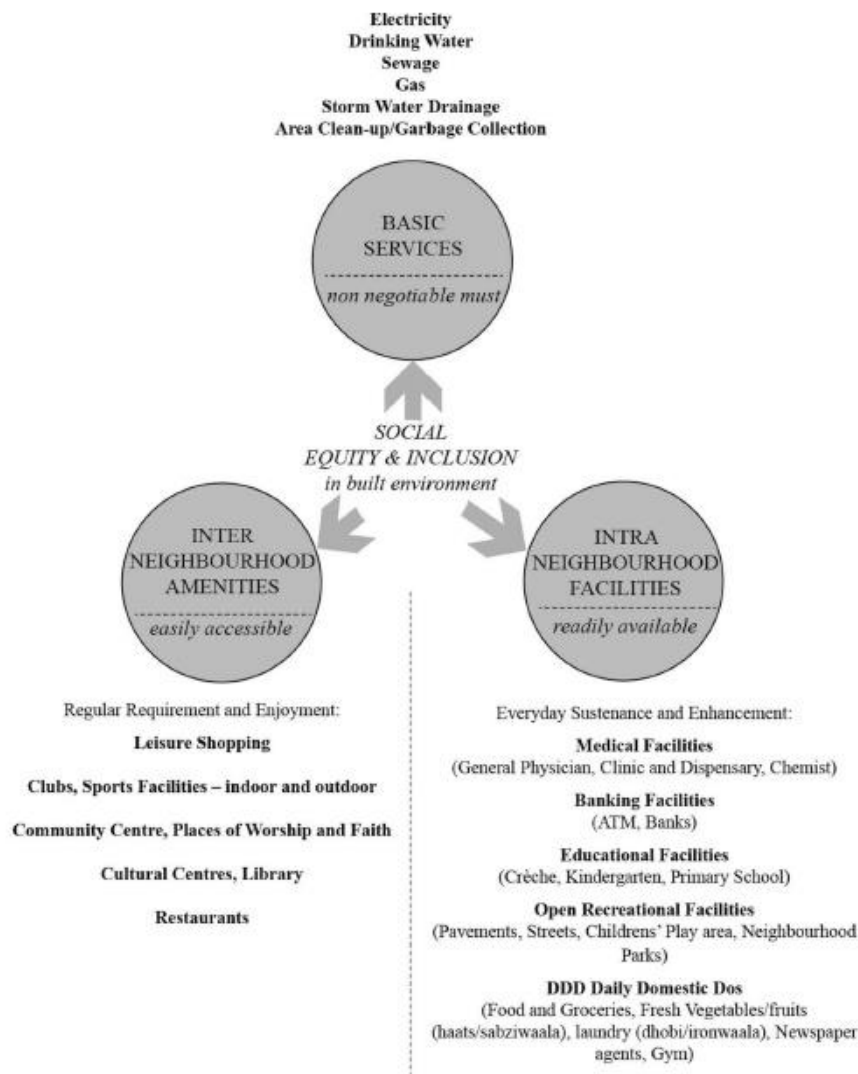


Figure 3 Social equity in the built environment. Source:(Hemani & Das, 2016, p. 159)

2.4.3.1.2 Community Sustainability

The dimension of ‘sustainability of community’ is related to the quality and wellbeing of the society. It is defined as:

“the ability of society itself, or its manifestation as local community, to sustain and reproduce itself at an acceptable level of functioning in terms of social organization and the integration of individual social behavior in a wider collective, social setting”
(Dempsey et al., 2012, p. 94)

Other common terms such as ‘social capital’ and ‘social cohesion’ are associated with sustainable communities which are, more or less, encompassing very close meanings and attributes of social sustainability including social networking and participation. (Bramley et al., 2006; Dempsey et al., 2011) By only focusing on the collective aspects of daily social life, Dempsey et al. (2011) summarized the concept of sustainable communities in five measurable inter-related dimensions which are:

1. social interaction/social networks in the community
2. participation in collective groups and networks in the community
3. community stability
4. pride/sense of place
5. safety and security

(Dempsey et al., 2011)

Communities are currently seen as the main space for spatial and operationalization of sustainability (NEAMTÜ, 2012). Another definition of sustainable communities is the one given by the UK government in the Egan report. It says that they are communities which meet the needs of present and future generations, promote quality of life and provide opportunity and choice to their societies. While at the same time, they keep an eye on their natural resources, enhance their environment, promote social cohesion and inclusion, and guarantee economic prosperity (Egan, 2004). The report proposed a framework with seven components for sustainable communities to be delivered. They are:

1. Social and cultural: vibrant, harmonious and inclusive communities;
2. Governance: effective and inclusive participation, representation and leadership;
3. Transport and connectivity: good transport services and communication linking people to jobs, schools, health and other services;

4. Services: a full range of appropriate, accessible public, private, community and voluntary services;
5. Environmental: providing places for people to live in an environmentally friendly way;
6. Economy: a flourishing and diverse local economy;
7. Housing and the built environment: a quality built and natural environment

(Egan, 2004, p. 19)

The Egan report did not define the size of the population within the sustainable community. They believe sustainable communities should be functioning over the different scales starting from an individual, a neighborhood and up to a whole city. NEAMTU (2012) argues that this Egan framework although it is context specific, it can be replicated in many places as it is quite general.

2.4.3.2 Social Capital and Social cohesion

The two overlapping concepts of social capital and social cohesion were commonly discussed in the literature more than social sustainability (Bramley et al., 2006) and were significantly emphasized in the sustainable development discourse (Hemani & Das, 2016). However, social capital could be considered as one of the non-physical factors contributing to social sustainability (Yoo & Lee, 2016). Social capital is defined as “features of social organization such as networks, norms and trust that facilitate co-ordination/co-operation for mutual benefit” (Putnam, 1993, p. 2). It is the glue that holds institutions together within a society allowing them to attain human development and economic growth (Grootaert & Van Bastelaer, 2001). Therefore, it promotes the community sustainability and neighborhood social sustainability.

Unfortunately, recent suburbanization is regarded as a reason for the decline of social capital in our communities (Leyden, 2003). Building social capital is linked to increased community cohesion, better psychological health, and lower crime rates. While at the same time, it is often claimed to have adverse impacts such as social isolation when high bonding exists in a community (Rogers et al., 2012). The neighborhood as a scale is significant for the construct of social capital because what happens inside a neighborhood affects the whole society. However, “the neighborhood is only one context for the production and maintenance of social capital” (Forrest & Kearns, 2001, p. 2137).

Social cohesion is another key concept in the social policy and sustainable development debates. It is a multi-faceted term that overlaps with many others in meanings and

understandings and it is often used interchangeably with the term social capital (Hemani & Das, 2016). Forrest and Kearns summarized the concept by stating that:

“Social cohesion can emphasize the need for a shared sense of morality and common purpose; aspects of social control and social order; the threat to social solidarity of income and wealth inequalities between people, groups and places; the level of social interaction within communities or families; and a sense of belonging to place” (Forrest & Kearns, 2001, p. 2128)

Both terms social capital and social cohesion are considered positive and desirable social objectives (Bramley & Power, 2009; Forrest & Kearns, 2001; Hemani & Das, 2016). Being contested and multi-faceted, different scholars provided them with different key themes or domains; for instance, see Table 7 and Table 8 as explained by Forrest & Kearns (2001). Hemani & Das (2016) provided another list of five domains which is very close to the sustainable community attributes explained earlier. Their list includes: social interaction/social networks, trust/reciprocity, place attachment/pride, social participation/community engagement, and fear of crime/safety.

Table 7 Domains of social cohesion. Source: (Forrest & Kearns, 2001, p. 2129)

Domain	Description
Common values and a civic culture	Common aims and objectives; common moral principles and codes of behavior; support for political institutions and participation in politics
Social order and social control	Absence of general conflict and threats to the existing order; absence of incivility; effective informal social control; tolerance; respect for difference; intergroup co-operation
Social solidarity and reductions in wealth disparities	Harmonious economic and social development and common standards; redistribution of public finances and of opportunities; equal access to services and welfare benefits; ready acknowledgement of social obligations and willingness to assist others
Social networks and social capital	High degree of social interaction within communities and families; civic engagement and associational activity; easy resolution of collective action problems
Place attachment and identity	Strong attachment to place; intertwining of personal and place identity

Table 8 The domains of social capital and appropriate neighborhood policies to support them. Source: (Forrest & Kearns, 2001, p. 2140)

Domain	Description	Local Policies
Empowerment	That people feel they have a voice which is listened to; are involved in processes that affect them; can themselves take action to initiate changes	Providing support to community groups; giving local people 'voice'; helping to provide solutions to problems; giving local people a role in policy processes
Participation	That people take part in social and community activities; local events occur and are well attended	Establishing and/or supporting local activities and local organizations; publicizing local events
Associational activity and common purpose	That people co-operate with one another through the formation of formal and informal groups to further their interests	Developing and supporting networks between organizations in the area
Supporting networks and reciprocity	That individuals and organizations co-operate to support one another for either mutual or one-sided gain; an expectation that help would be given to or received from others when needed	Creating, developing and/or supporting an ethos of co-operation between individuals and organizations which develop ideas of community support; good neighbor award schemes
Collective norms and values	That people share common values and norms of behavior	Developing and promulgating an ethos which residents recognize and accept; securing harmonious social relations; promoting community interests
Trust	That people feel they can trust their co-residents and local organizations responsible for governing or serving their area	Encouraging trust in residents in their relationships with each other; delivering on policy promises; bringing conflicting groups together
Safety	That people feel safe in their neighborhood and are not restricted in their use of public space by fear	Encouraging a sense of safety in residents; involvement in local crime prevention; providing visible evidence of security measures
Belonging	That people feel connected to their co-residents, their home area, have a sense of belonging to the place and its people	Creating, developing and/or supporting a sense of belonging in residents; boosting the identity of a place via design, street furnishings, naming

2.5 Urban Form and Social Sustainability

Urban form plays a significant role in achieving social sustainability in the neighborhood. In general, the term urban form is used to describe physical characteristics of an urban area. However, it is considered a complex concept in both its understanding and measurement; because it involves both physical and socio-spatial aspects along different urban scales (Hemani et al., 2016). The UK Government Office for Science ‘Foresight’ defines urban form as:

The physical characteristics that make up built-up areas, including the shape, size, density and configuration of settlements. It can be considered at different scales: regional, urban, neighborhood, block and street. Urban form evolves constantly in response to social, environmental, economic and technological developments; planning, housing and urban policies; and health, transport and economic policies (RTPI, 2015).

Sustainable urban forms should allow for community stability and functionality. They should be accepted by people as places where they can live, work and interact (Bramley et al., 2009).

There are various urban form components that are claimed to affect social sustainability. Hemani, Das, and Chowdhury (2016) explained in their study that the most important components among them are: density, open-spatial network, land use, blocks and built-components, see Table 9 for their descriptions.⁵ Other urban form elements such as green areas, housing types, floor heights were also considered in major studies such as (Bramley et al., 2009).

‘Built environment’ is another term that is used interchangeably with ‘urban form’. Similarly, it is a multi-dimensional concept which is commonly used to refer to physical settings or characteristics within an urban scale. Handy et al. (2002) defined the built environment as the physical environment which has the human activities in it and comprises urban design, land use and transportation systems. Attributes of the built environment in the neighborhood scale include: density and intensity, land use mix, street connectivity, street scale, aesthetic qualities and regional structure (Handy et al., 2002), see Table 10 for their definitions and examples of their measures.

⁵ For a detailed literature overview on each urban form component refer to supplementary material 1 for the same authors cited as (Hemani, Das, & Chowdhury, 2016)

Table 9 Components of urban form at the neighborhood scale. Source: (Hemani et al., 2016)

Components	Description
Open spatial-network	The network of public open spaces (not just spaces for outdoor sports and recreation but also everyday spaces such as streets, community squares and open markets)
Land-use	The total of arrangements, activities and inputs that people undertake in a certain land cover type (different functions of the built environment, mix of uses)
Density	The number of people living in a particular area (number of people per hectare)
Blocks	The smallest area defined by spatial network (space for buildings surrounded by streets or other open spaces)
Built-components	Built components within the urban blocks that form physical containers or ‘street-walls’ of spatial network (attributed by orientation, frontage, coverage, enclosure, typology)

Accordingly, both terms, ‘urban form’ and ‘built environment’, are very close in meaning and components, which are vital to social sustainability at the neighborhood scale.

Most organizations and scholars consider the built environment a core factor affecting social sustainability. There have been many studies about the effect of neighborhood built environment on social capital and social sustainability attributes, most of them focus on density as a key element of urban form (Yoo & Lee, 2016). Urban policy makers were trying to figure out whether is it right to expand by developing at higher densities or at lower ones, in other words compactness versus sprawl (Bramley et al., 2009). Sprawl has been associated with different negative outcomes as previously explained, which emphasizes the need for examining the different urban forms and models that would promote urban sustainability (Hemani et al., 2016).

Literature in the developed world is rich with many arguments concerning the social impacts of urban forms and their accepted degree of compactness in different cities. On the other hand, this issue is not studied in the context of the developing countries where there is very little

knowledge about social sustainability and its relation to various urban forms and densities (Dave, 2011).

Most planning movements emphasize the promotion of social capital. However, the relationship between the built environment and social capital is still quite contested. Many studies found a strong relationship between them while others found a weaker, or in some instances no relationship at all (Rogers et al., 2012).

Table 10 Dimensions of the built environment at the neighborhood scale. Source: (Handy et al., 2002, p. 66)

Dimension	Definition	Examples of measures
Density and intensity	Amount of activity in a given area	<ul style="list-style-type: none"> - Persons per acre or jobs per square mile - Ratio of commercial floor space to land area
Land use mix	Proximity of different land uses	<ul style="list-style-type: none"> - Distance from house to nearest store - Share of total land area for different uses - Dissimilarity index
Street connectivity	Directness and availability of alternative routes through the network	<ul style="list-style-type: none"> - Intersections per square mile of area - Ratio of straight-line distance of network distance - Average block length
Street scale	Three-dimensional space along a street as bounded by buildings	<ul style="list-style-type: none"> - Ratio of building heights to street width - Average distance from street to buildings
Aesthetic qualities	Attractiveness and appeal of a place	<ul style="list-style-type: none"> - Percent of ground in shade at noon - Number of locations with graffiti per square mile
Regional structure	Distribution of activities and transportation facilities across the region	<ul style="list-style-type: none"> - Rate of decline in density with distance from downtown - Classification based on concentrations of activity and transportation network

The literature concerned with the effect of urban forms on social sustainability lacks homogeneity; many findings and arguments are contradictory. For this reason, focus should be given to the context when planning new urban development or redevelopment to ensure tackling social sustainability. The socio-economic and demographic mix is a significant factor which affects the social sustainability, this means that different groups of people would need different environments to live in. As a matter of fact, when it comes to social sustainability, “it is clear that one size does not fit all” (Bramley et al., 2009, p. 2139); trade-offs in terms of policies and urban form designs will be always there and there is no ultimate solutions to suit all communities (Mason, 2010).

2.5.1 Density

Generally, density has different and complex definitions; in the context of built environment, it is known as the ratio of people to the built space or land, see definitions in Table 9 and Table 10. Density of buildings is co-related to density of people, where the increase in one would increase the other. In fact, the component of density is not limited to physical density but includes perceived density, an important dimension that is debated in many studies (Dave, 2011). Higher density is feared by people who perceive it as: ugly buildings, crowd and parking problems. While it is promoted by people who see it as: walkable neighborhoods, increased housing options, lively streets and efficient infrastructure (Forsyth, 2003).

Density is found to be the most critical element of urban form; it affects all social sustainability attributes as explained by (Bramley et al., 2009). Their study revealed that the relationship between density and social sustainability is quite complex and contradictory in its hypotheses and findings. For instance, although research is found to support that higher densities would strengthen the sense of community in a neighborhood, alternative arguments state that they force people to withdraw from social contact; because people living in the anonymity of city life would rather be stressed and less tied to their society. The results of their study indicated that higher densities negatively affect residential satisfaction, stability and perceived quality of the environment whereas social interaction and participation improve at medium densities and drop again at highest levels. Moreover, density would also affect the appearance and aesthetics of a neighborhood which would be reflected on the pride and attachment of its residents (Bramley et al., 2009).

Compactness, which is another term that refers to increased density, is commonly viewed as a tool for improving accessibility to services and amenities as they become more economically viable and travel distances are minimized as well (Bramley & Power, 2009; Hamiduddin, 2015), thus, social equity is improved. Although it is still a favorable policy, the increased densities might have negative effects on other aspects such as: lowering green areas (parks and gardens) which would weaken personal wellbeing (Hamiduddin, 2015), deteriorating the neighborhood environment and reducing the safety of people (Bramley et al., 2009). Again the issue of safety has been contradicting with other results found in literature where higher density (e.g. more people and more activity in streets) would result in improving the safety measure (Hemani et al., 2016).

Dempsey et al. (2012) summarized the various associations between density and social sustainability attributes in Table 11. From the social equity perspective, denser urban forms improved access, while at the same time negatively affected the community sustainability. Consequently, due to these contradicting arguments the potential benefits of increasing density should be weighted carefully against its negative impacts (Bramley & Power, 2009; Hamiduddin, 2015).

Table 11 Summary of overall findings. The effect of high density on social sustainability. Source: (Dempsey et al., 2012, p. 133)

High-density respondents are more likely to report. . .
<ul style="list-style-type: none"> - Greater use of neighborhood services and facilities - Walking or cycling to access neighborhood services and facilities - Lower levels of car use and car ownership - Lower provision of open/green space and a lower propensity to use neighborhood open spaces - Lower rating of neighborhood parks and green spaces Poorer neighborhood quality - Feeling less safe walking in their neighborhood after dark - A shorter length of residence in their neighborhood Having plans to move house in the next few years - Lower propensity to socially interact positively with neighbors
. . .than residents in lower density neighborhoods

Bramley et al. (2009) concluded that the sole measurement of density is not viable as it should be accompanied with different urban form elements such as housing-type mix, land-use mix, availability of greenspace and gardens, and network-connectivity characteristics. Similarly, Hemani et al. (2016) stressed also on the fact that this density measure should be in synergy

with other favorable urban forms components such as: mix of land use (allowing more human activity during day and night times); more eyes on streets through built-components (such as balconies, windows, building frontages, street lighting, building orientations); more connectivity through street networks (Hemani et al., 2016). As a matter of fact, due to the contradictions in social outcomes, there is a need to comprehend the individual relationships between each urban form component and specific social sustainability attributes. Otherwise, the social outcomes that are taken as a whole may cancel each other out (Bramley & Power, 2009).

2.5.1.1 Medium Density

In fact, low and high density have their direct and indirect adverse impacts on social sustainability. Accordingly, some people recommend the term medium density as a favorable urban form quality proposed. Nevertheless, the use of the terms ‘low’, ‘medium’, and ‘high’ is sometimes misleading in their meanings since they have wide variations depending where they are being used (Landcom, 2011).

Medium density housing was thought to be an optimum housing policy in the US and other countries. The term is considered broad as it varies in its definition and range from one country to the other. Most often, it refers to residential density higher than 12 dwellings per hectare (Burke, 1991). This can be achieved through two ways: First, through multi-unit housing in the form of attached dwelling units, this type allows for higher density such as 60-70 dwelling per hectare. Second, through small lot subdivision where a single dwelling is placed on an area smaller than 650m², this allows for density to be between 15 to 20 dwelling per hectare (Burke, 1991).

Others consider medium density to range between 15 to 30 dwelling per hectare which is the housing density that was proposed originally by Howard in his garden cities model. The model aimed to lower density at that time (Dempsey et al., 2012). In 1924, the dominating medium density in the UK became 30 dwelling per hectare as it was recommended by the Tudor Walters Policy report to improve living conditions and reduce overcrowding (Dempsey et al., 2012).

Another policy document in UK consider medium housing to be about 25 to 50 dwelling per hectare which is 100 to 173 habitable rooms per hectare (Woking Borough Council, 2000) see Table 12. In New Zealand, medium density housing is very common and is defined as “two to three-story terraces and apartments up to four stories in size” (Ancell & Thompson-Fawcett, 2008, p. 424), it should be multi-units development with an average area of less than 350m²

per unit. It also includes stand-alone dwellings and semi-detached dwellings (Boffa Miskell Ltd., 2012) see Figure 4.



Figure 4 Medium density housing in New Zealand. Source: (“Medium Density Housing,” n.d.)

Table 12 Housing Densities as per Woking Borough Council, Source: (Woking Borough Council, 2000, p. 3)

Comparative Housing Densities	
High	173 - 247 + habitable rooms per hectare 49 - 74 dwellings per hectare > 0.5: 1 + plot ratio
Medium	100 - 173 habitable rooms per hectare 25 - 50 dwellings per hectare 0.2 - 0.5: 1 plot ratio
Low	< 100 habitable rooms per hectare < 25 dwellings per hectare < 0.2: 1 plot ratio

There are various methodologies to calculate residential density (Forsyth, 2003; Landcom, 2011; Woking Borough Council, 2000). The Woking Borough local plan recommends the appropriate density calculations for each category (low – medium – high). It proposes that the number of habitable rooms per hectare should be used as the method for medium to high density calculations, whereas the number of dwellings per hectare should be used for lower density calculations (Woking Borough Council, 2000).

2.5.2 Open Spatial Network and Housing Layouts

Open spatial network refers to the network of public open spaces including streets, community squares and parks (Hemani et al., 2016). Mason (2010) studied the impact of urban form variables, other than density, on the trust level (as an indicator for social capital) within the communities of 34 neighborhoods in Boise, Idaho. These variables are: street pattern whether its traditional linear grid, curvilinear or cul-de-sac; sidewalks; and open spaces. The study showed that social capital is improved when there are sidewalks and more open spaces where

people interact. In addition, cul-de-sac street patterns were associated with higher social capital than traditional and curvilinear. (Arundel, 2011; Mason, 2010)

Layout pattern was also studied by Karuppannan and Sivam (2011) who found that residential areas designed as row houses with low densities reduce social interaction than residential clusters such as U-shaped layouts. U- shapes provide common entries and meeting areas where residents meet each other. Cluster housing is a good design for promoting social interaction because residential units are close enough for residents to interact and windows are usually facing streets. Their conclusion is that layout pattern, location, the design of open spaces, and the resulting spaces between buildings are major elements in promoting social interaction between residents and hence social sustainability (Karuppannan & Sivam, 2011).

2.5.3 Land use Mix and Walkability

Land use diversity is found to be contributing to improving social sustainability attributes such as social interaction and so, enhancing social capital. This is because mixed use development usually attracts more people and enable them to socialize (Yoo & Lee, 2016). Land use provision that has ‘favorable spatiality’ result in better social sustainability. ‘Favorable spatiality’ is a term given by Hemani et al. (2016) which means the presence of spaces with social opportunities, such as local open spaces, children playing areas, religious or community centers and local street shops as grocery. But this does not work in isolation, it should be integrated with other favorable urban form components (Hemani et al., 2016).

Research proved that compact and mixed-use areas that are within walkable distances encourage people to walk more in their neighborhood. During walking people tend to see each other, meet or interact. It even can lead to collective action towards an issue within the community. Therefore, social capital is related to the design of the built environment at various scales (Rogers et al., 2012; Yoo & Lee, 2016).

Leyden (2003) also discussed the importance of the walkability measure being added to the mix of uses. Walkability allows for the spontaneous interaction between the community and enhance the sense of connection and trust between them, hence improves social sustainability. Leyden (2003) criticized the car-based modern suburbs which lack sidewalks or corner shops within their neighborhoods; “these places are not designed to encourage any social interaction” (Leyden, 2003, p. 1547). Ahmed (2012) explained that the design of walkable and well-planned street networks comprising cycling routes would improve surveillance and contribute to better safety measure within a neighborhood. Similarly, Hemani et al. (2016) argued that active mixed

uses such as the presence of grocery, active primary streets and live-work units would enhance the natural surveillance and reduce residents' fear of crime.

2.5.4 Built Components and Blocks

The human scale is another important aspect which should be reflected in the built components and blocks of an urban area. Human scaled spatial arrangements and configurations are associated with improved pedestrian experience and stronger sense of community. It increases the psychological attachment to the neighborhood and hence improve community sustainability. (Arundel & Ronald, 2015; Hemani et al., 2016) This would include: lower building floor heights, narrower streets, and smaller land plots. Also, other variables of the built-components such as active building frontages and respondent buildings orientation are also linked to improved social capital and cohesion.

Additionally, safety which is another major issue is improved through more over-looking built components or as originally proposed by Jacobs (1961) more “eyes on streets” through elements such as balconies, windows and building orientation. “Eyes on streets” means that the proprietors of the neighborhood would be scanning the street all the time with no need for police or security to guarantee its safety (Broadbent & Broadbent, 2003). Smaller blocks which are found to increase visual permeability and accessibility, also, make people feel more safe and secure (Hemani et al., 2016).

Many studies argue that the appeal of the physical environment would make people more satisfied with their neighborhoods. Residents satisfaction with their neighborhood would mean stronger social sustainability (Karuppannan & Sivam, 2011). In fact, aesthetic qualities would affect the community sustainability as it will be reflected on pride and sense of belonging (Handy et al., 2002) and so, stability of residents.

2.5.5 Recommended Urban Form Qualities

The literature emphasized how urban form qualities can affect social sustainability directly and indirectly in many ways. After all, to nurture the urban social sustainability in our neighborhoods, certain urban form qualities are necessary. A neighborhood should be developed in a medium density that is culturally accepted and satisfying to the people, at the same time, would allow for the economic functionality and social development of the community. The density ranges depend on the context and would be different as per each location and so detailed prior studies are needed to determine upper and lower density thresholds that would result in the most possible sustainable outcome.

Creating mixed land uses, that would also mean proximate essential services and amenities to people, and mixed housing typologies are extremely needed. In addition, the urban planning should allow for efficient clustering of the housing units, integration and connectivity of the streets, compactness of blocks and availability of various social spaces that would satisfy the residents' needs. Human scale is also another key dimension where lower floor buildings and narrower streets would result in a more cohesive environment.

Most importantly, the neighborhood should be designed in a pedestrian friendly manner that would ease walkability and cycling. Finally, synergy between the different urban form qualities is a critical and complex issue since trade-offs will be always a challenge and ultimate solutions that would suit all criteria perfectly do not exist.

2.6 Prior Social Sustainability Conceptual Frameworks

This section will present brief descriptions of urban social sustainability frameworks that were devised by various scholars. It clearly shows how the issue has been operationalized in different methods, principles and perspectives.

2.6.1 Chan & Lee (2008)

In their study, Chan & Lee (2008) defined a socially sustainable project as a one which creates harmonious living environment, minimizes social inequalities and promotes quality of life. Their framework is based on an urban perspective encompassing six components, see Figure 5:

- 1) Provision of social infrastructure; this would include essential various amenities and public facilities.
- 2) Availability of job opportunities; employment is a major issue which provides income for individuals and the work place allows for social cohesion and networking. Increasing employment rates minimize social problems as poverty, social exclusion and other psychological problems.
- 3) Accessibility; is seen as a human right to every human being.
- 4) Townscape design; here the focus is on pedestrian oriented streetscapes, visually pleasing designs and interconnected street networks that would encourage social interaction among citizens and satisfy the residents.
- 5) Preservation of local characteristics; the culture and life style of people should be always priorities in our designs as well as preserving history and heritage indeed.
- 6) Ability to fulfill psychological needs; this would include sense of belonging, safety and security.

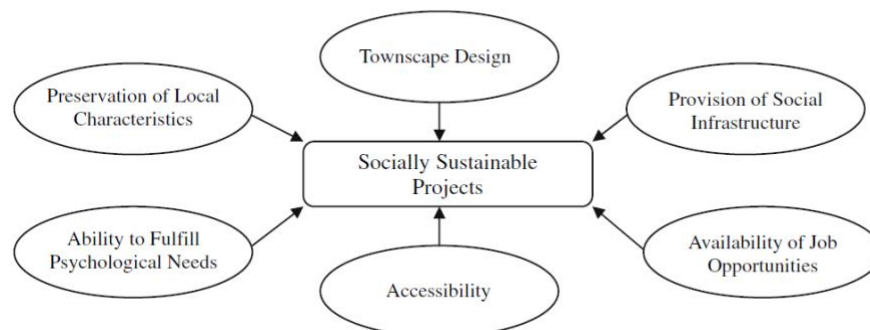


Figure 5 Significant factors affecting social sustainability of development projects.
Source: (Chan & Lee, 2008, p. 245)

2.6.2 Cuthill (2010)

Cuthill (2010) offered a different and more general conceptual framework for social sustainability (not specifically in a neighborhood scale); on the basis of his philosophical perspective that environmental and economic sustainability tend to be more of social issues. He explained that environmental problems affecting the society can be controlled by the managing of people who have an impact on nature and not nature itself. While economic sustainability is also meant to serve the people and not the other way around. Accordingly, the framework, as seen in Figure 6, includes both the economy and environment that should be well integrated with the disciplines of social sustainability, which are social infrastructure, social justice and equity, engaged governance, and social capital.

Social capital here is seen as the theoretical starting point for social sustainability while social infrastructure provides the operational perspective. Cuthill (2010) explained social infrastructure as incorporating social and community service items as well as the less tangible ‘soft’ infrastructure, which is related to building the capacity of citizens and community groups to work towards sustainable development.

Social justice and equity components involve fairness, inclusion, rights, access and participation. Whereas engaged governance refers to democracy and focuses on ideas of ‘working together’ and ‘voice for all’ which means involving the community in decision making process.

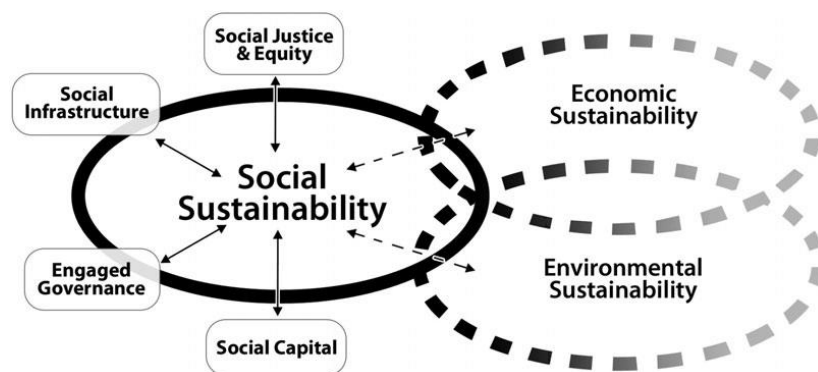


Figure 6 Conceptual framework for social sustainability. Source: (Cuthill, 2010, p. 366)

2.6.3 Woodcraft et al. (2011)

Woodcraft et al. (2011) in the Young Foundation report proposed a framework for building new communities that are socially sustainable. For them social sustainability should be:

“A process for creating sustainable, successful places that promote wellbeing, by understanding what people need from the places they live and work. Social sustainability combines design of the physical realm with design of the social world – infrastructure to support social and cultural life, social amenities, systems for citizen engagement and space for people and places to evolve.” (Woodcraft et al., 2011, p. 16)

The framework is based on four principles which are named as: amenities and social infrastructure; social and cultural life; voice and influence; and space to grow, see Figure 7. The aim was to integrate this framework into public policy and professional practice so that local governments and other relevant stakeholders would understand the social needs within their communities and to be able to solve or avoid them in the future (Woodcraft et al., 2011)

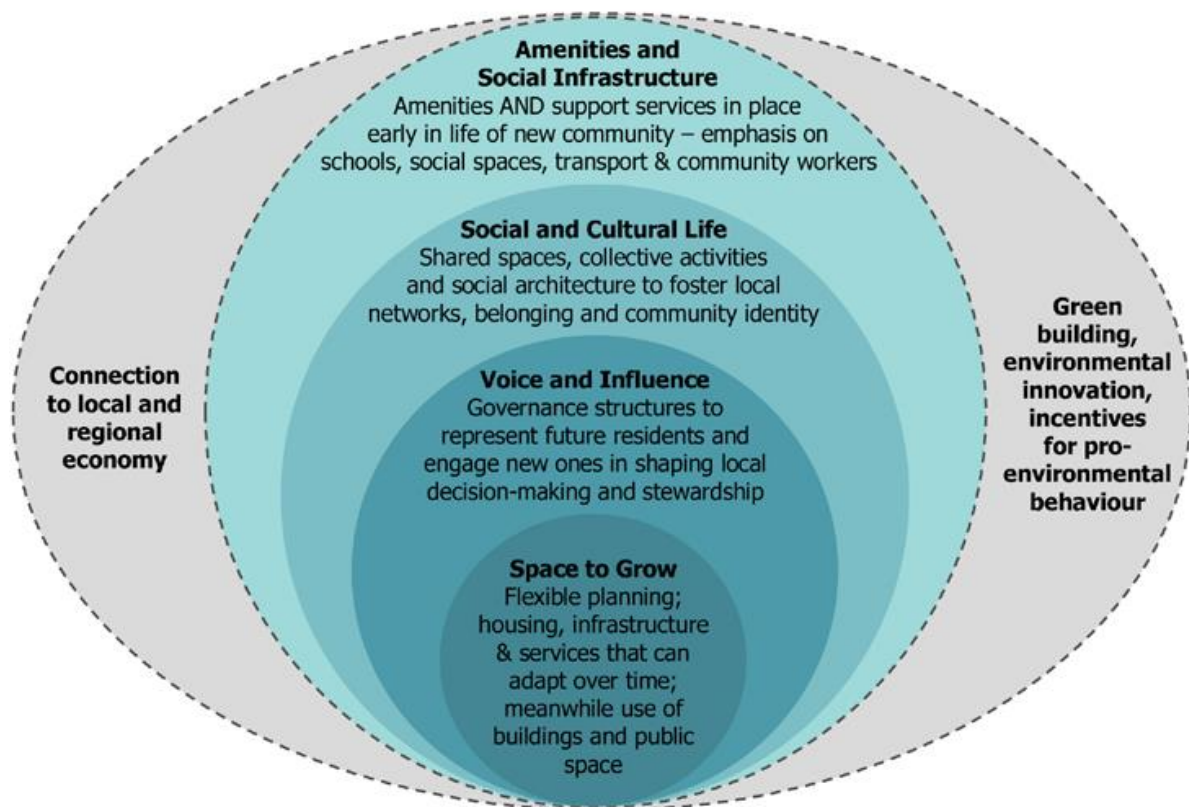


Figure 7 Illustration of Design for Social Sustainability Framework. Source: (Woodcraft et al., 2011, p. 22)

This framework was the base for further work⁶ done by the Berkeley Group, Social Life and Tim Dixon who is the Professorial Chair in Sustainable Futures in the Built Environment at the University of Reading (Bacon, Cochrane, Woodcraft, & Brown, 2012). The project was able to develop a social sustainability measurement framework in which it changed the four principles into only three dimensions that were pinned by a set of indicators and were then measured. The three dimensions are: ‘Amenities and infrastructure’ which is related to past experience and focuses on lessons for future designs and provision of services; ‘Social and cultural life’ which is about how people experience the present development; ‘Voice and influence’ which is concerned with how residents would shape their future. The disregarded fourth dimension which is ‘Change in the neighborhood’ was not less important but it was not measured due to limitation in its data at that time (Bacon et al., 2012; Woodcraft, 2012).

⁶ Full details on the project can be found in the report *Creating Strong Communities: How to measure the social sustainability of new housing developments*, cited as (Bacon, Cochrane, Woodcraft, & Brown, 2012)

2.6.4 Hemani & Das (2016)

After conducting a comprehensive literature review, Hemani and Das (2016) defined social sustainability within the built environment to be “a combined top-down and bottom-up process for creating urban spatial forms that nurtures the 4’S’, social capital, social cohesion, social inclusion and social equity, whilst appreciating people’s diverse needs and desires from the places they use” (Hemani & Das, 2016, p. 155) They also concluded that a ‘socially sustainable neighborhood’ is considered an absent notion in both theory and practice. Thus, they proposed a framework as seen in Figure 8 which focuses on social policy, design and action. The framework is concerned with the urban built environment and should enable the Indian cities to operationalize the concept of social sustainability.

The framework suggests that to reach social sustainability, there should be a combination of both bottom-up approaches which include micro-level variables, and top-down approaches that include macro-level variables. It should also enable cities to benefit from unifying contextual planning along with emergent local actions, while at the same time, different policy levels could interact with minimum conflict.

The framework defines social sustainability into three main principles:

- 1) Robust and achievable social policies (top-down)

This principle focuses on providing ‘rights for all’ concerning: shelter, access, space and decision.

- 2) Incremental and flexible social design principles (linking top-down and bottom-up)

Here, design principles include concepts such as availability, connectivity and diversity.

- 3) Inclusive and empowering social actions (bottom-up)

Local actions which would allow for community mobilization, empowerment and participation include: community groups and assets, community activities, neighborhood institutions, forums and websites (both formal and informal).

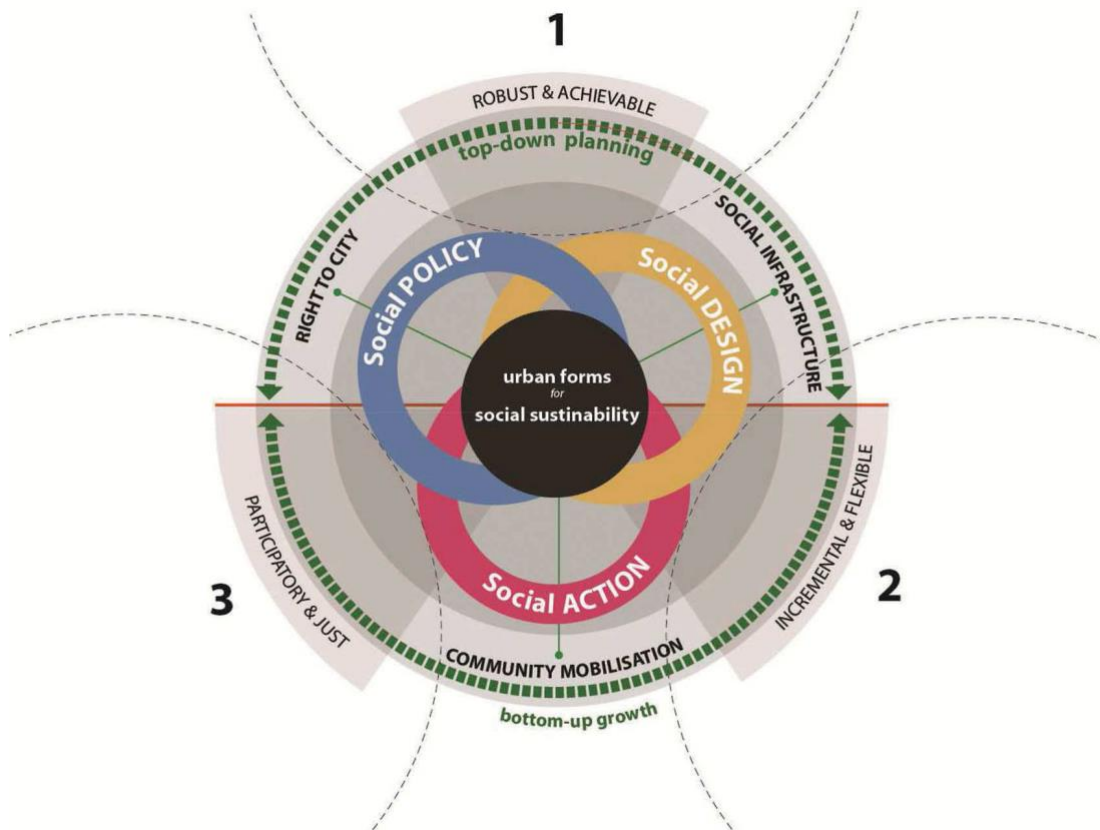


Figure 8 Social sustainability framework for policy, design and action in spatial design of cities. Source: (Hemani & Das, 2016, p. 161)

2.7 Conclusion

Urban social sustainability is an important concept that originally was neglected by policymakers and lacks consensus regarding its understanding and implementation. Recent scholars started to give it more attention translating the notion into more measurable attributes rather than subjective theories. These attributes are fundamental to answer the research question as they present factors which build a socially sustainable neighborhood. The literature has different principles and frameworks which sometimes agree, disagree and overlap in meanings. The work of Bramley et al.(2006) and Dempsey et al. (2011) in defining urban social sustainability is found to be widely accepted by most subsequent scholars. Their definition is quite relevant to the scope of this research; hence it will be used in the conceptual framework in the coming chapter.

Additionally, the urban form plays an important role in affecting social sustainability. The literature confirms the importance of the synergy between all urban form qualities together to achieve social sustainability. Another point to consider is that urban form qualities change with the context which differs from one place to the other.

CHAPTER 3: CONCEPTUAL FRAMEWORK & METHODOLOGY

Chapter 3: Conceptual Framework & Methodology

3.1 Introduction

This chapter presents the conceptual framework, developed from the previous literature review, and the methodology that will be used to test this conceptual framework. The conceptual framework presents the principles that build a socially sustainable neighborhood and these principles are broken down into attributes that can be operationalized within a neighborhood. It aims to reflect the different dimensions of a socially sustainable neighborhood based on the most recent literature and it is not intended to follow a particular theory per se.

As for the methodology, this section starts with a brief literature overview about measuring social sustainability. The research is designed based on a qualitative approach. Methods including in-depth interviews, field observations and spatial analysis were used to examine the socially sustainable neighborhood principles through a case study analysis. Principles are measured through different methods according to the literature and to the limitations of the research.

3.2 Conceptual Framework

This research is concerned with the notion of urban social sustainability in the neighborhood scale since it has proved its significant importance for achieving overall sustainable urban development. On the macro-scale, a neighborhood is the small unit from which the whole city depends on to achieve its sustenance. While on the micro-scale, a sustainable neighborhood would guarantee a quality of life for its communities, see Figure 9. Therefore, a socially sustainable neighborhood is considered our main end goal, whereas promoting social equity and social capital are sub-goals.

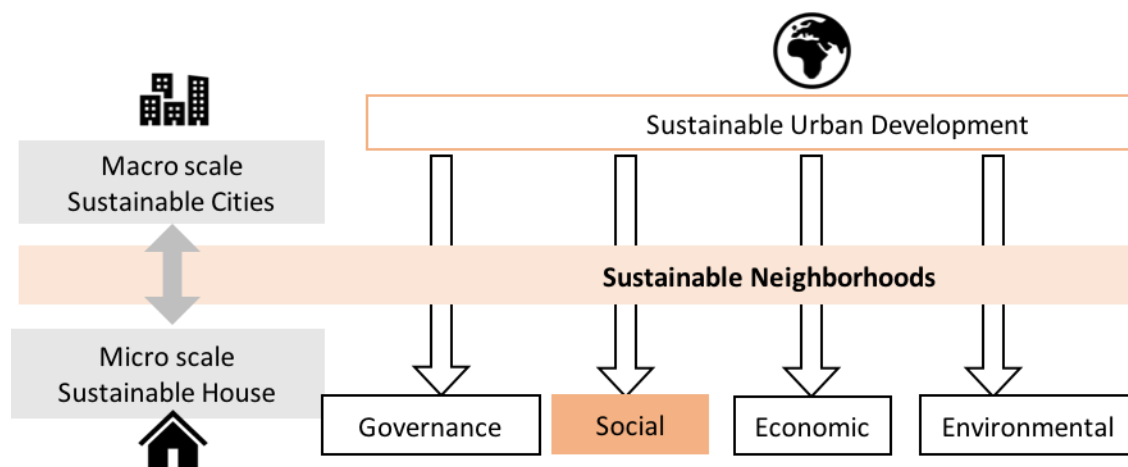


Figure 9 Neighborhood scale significance. By author.

To answer the main research question presented in chapter 1, an extensive literature review was conducted to be able to define and operationalize social sustainability in the neighborhood. The conceptual framework is developed based on the work of different scholars. A socially sustainable neighborhood comprises three main principles for its achievement, the first two principles are based on the work of Bramley et al. (2006) and Dempsey et al. (2011) which are Equity of Access and Community sustainability, refer to 2.4.3.1. The third principle is concerned with the surrounding built environment where certain urban form qualities are required, and it is based on different sources in the literature, refer to 2.5.

The three principles are not enough to achieve a socially sustainable neighborhood; urban policy making has a similar vital role as such. Based on the framework developed by Hemani and Das (2016), urban governance should combine both top-down planning and bottom-up approaches to be able to achieve urban social sustainability, refer to 2.6.4. It is worth mentioning that the scope of this study does not involve analyzing the urban governance principle in details and it will only be addressed through the residents' perceptions and not from the government's side. ***The whole conceptual framework is visually explained in Figure 10 and Figure 11 .***

While the previous attributes of social sustainability explained in our conceptual framework do not encompass health and well-being⁷ as explicit dimensions. The framework affects health and well-being in many ways indeed. For example: social networks and community participation would promote healthier individuals physically and mentally and affect their well-being (Leyden, 2003); also, urban forms or built environment that allow for physical exercising such as walking and cycling would also do the same. Therefore, health and wellbeing are implicitly covered within the framework (Dempsey et al., 2011).

It should be noted that most social sustainability principles identified affect each other directly and indirectly. The framework attempts to avoid the great deal of overlapping in meanings and terminologies which are found in the relative literature by identifying each principle as precise as possible. Finally, the conceptual framework should allow for its measurement, this will be explained in the methodology chapter.

⁷ Well-being is a broad concept which briefly refers to the state of doing well in life, being happy, healthy and prosperous (Weingaertner & Moberg, 2014).

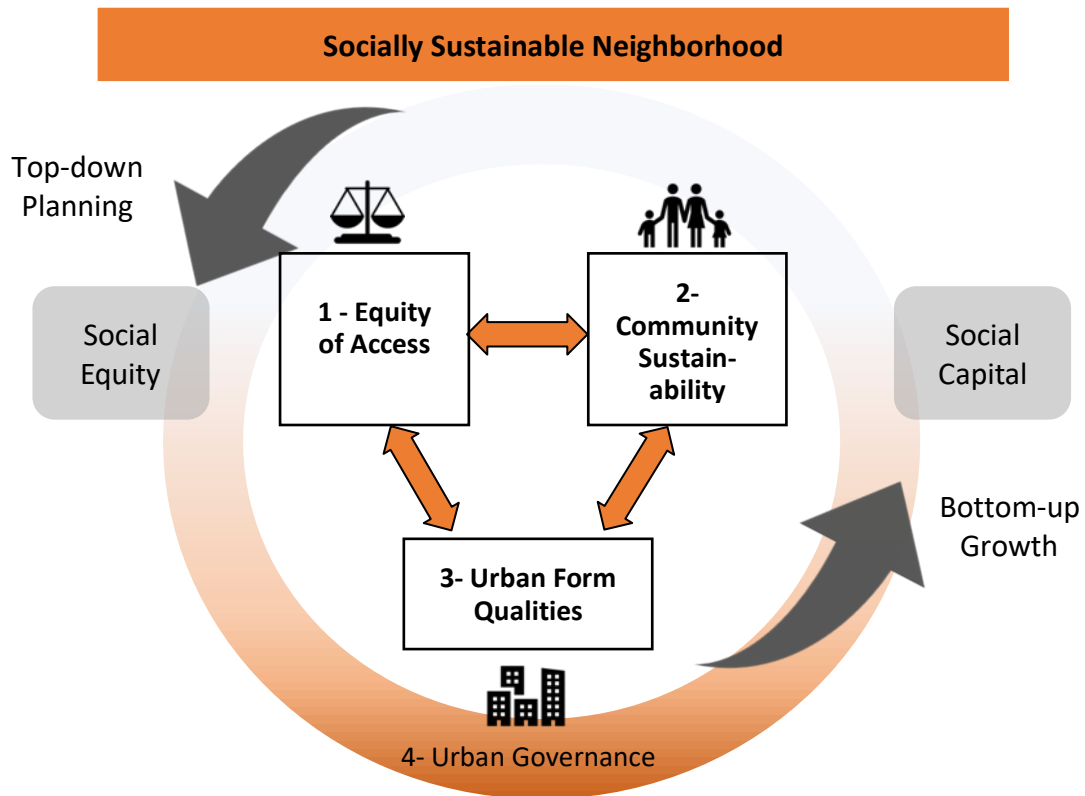


Figure 10 Conceptual Framework: Goals and policy approaches. By author.

Principles 1 and 2 (equity of access and community sustainability) are from Bramley et al. (2006) and Dempsey et al. (2011), Principle 3 (urban form qualities) is compiled from different sources, and Principle 4 (the urban governance principle: top-down and bottom-up) is from Hemani and Das (2016)

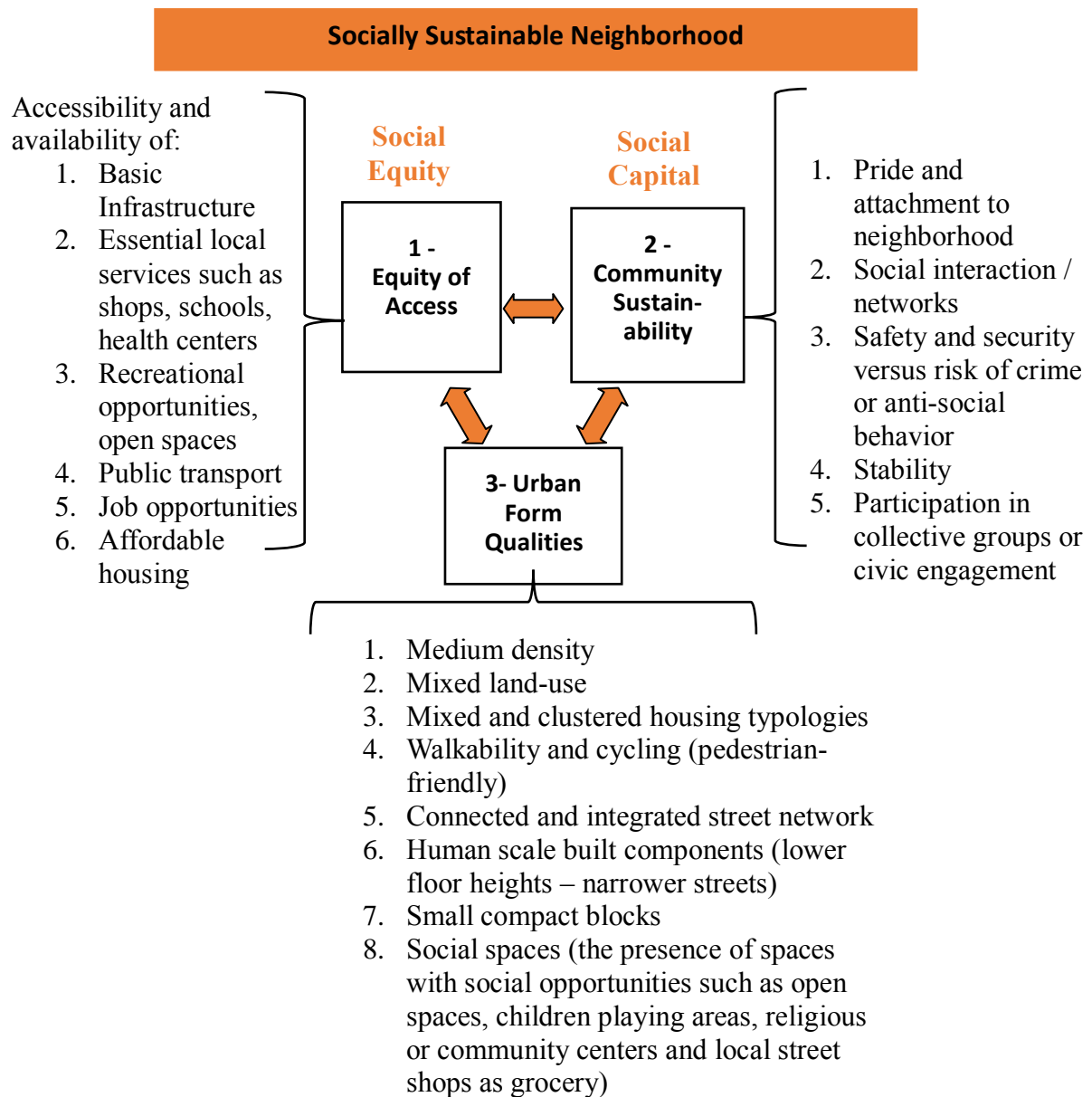


Figure 11 Conceptual Framework: Social sustainability principles explained. By author.

3.3 Methodology

3.4 Measuring Social Sustainability

Measuring sustainability is one of the huge controversial and complex issues that currently captures the attention of both academics and policymakers all over the world. There are various methods and approaches that were developed to tackle such issue including: rapid measurements as input data to specific projects and long-term research processes or monitoring systems (Turcu, 2013).

Concerning urban sustainability, indicators are considered the most influential measuring tools and although they should be developed by experts (initiated primarily by governments), citizens should engage in setting them so they would be more capable of understanding local values and expanding their knowledge (Turcu, 2013). Colantonio (2010) also explained the importance of stakeholder participation in assessment methodologies; since objective assessments, done from an assessor's side only with no participation, proved to be inadequate on the theoretical, political and practical levels.

The lack of specific social sustainability assessment methodologies (Colantonio, 2010) can be traced back to different constraints. Some scholars argued that no one knows exactly what is a sustainable urban area (Turcu, 2013) and that a socially sustainable neighborhood does not exist (Hemani & Das, 2016). Consequently, evaluating an idea such as 'a socially sustainable neighborhood' is quite challenging, especially, when it comes to less tangible themes such as social cohesion or sense of pride (Turcu, 2013). In addition, social sustainability objectives and their assessments should be contextualized within the different development models and systems (Colantonio, 2010).

In fact, diverse active research strategies are essential to measure social properties of a neighborhood. The sustainable community or 'softer' attributes such as social cohesion, participation, and safety are considered intersubjective properties which require the perspectives of residents themselves, hence in-depth interviews are considered the sensible mode for data collection (Raudenbush, 2003). On the other hand, the social equity or 'harder' attributes such as accessibility or availability of essential local services would require direct observations. Interviews and direct observations are the logical way to understand social problems in a certain neighborhood (Raudenbush, 2003).

3.5 Research Design

Since this research is an exploratory with its nature, this directed our methodology to be qualitative to help deeply understand the different social experiences and perceptions in the Egyptian context. The social sustainability conceptual framework is tested on a case study which is South Academy A in New Cairo city to develop further knowledge and to be able to assess to what extent the Egyptian urban development is contributing to social sustainability in new cities similar to the analyzed one.

3.5.1 Data Collection Methods and Tools

The research used both primary and secondary data. The secondary data was used primarily for the literature review which covers the main concepts in such a study, and its sources include academic journal articles (mostly peer-reviewed), published and unpublished dissertations, books, policy papers, institutional and governmental reports and websites.

As for the primary data collection, this research employed different investigation tools:

First, in-depth semi-structured interviews are conducted as a primary method since they are effective in obtaining detailed information regarding thoughts, behaviors, and opinions (Boyce & Neale, 2006). Interviews are found to be an efficient qualitative method in all the literature concerned with the topic in question. Therefore, this method is used in exploring the complex and subjective enquired concepts regarding how residents are experiencing social sustainability in their neighborhood. The interviews are done on a one-to-one basis (face-to-face) which is a mode that allows for building trust, clarifying questions and concepts, understanding non-verbal clues and motivating the respondents (O'Leary, 2004). The interview guide for the study is attached in Appendix A: Interview Guide.

In addition, data will be collected from some residents (other than the interviewed ones) through self-administered online questionnaires based on the same questions asked in the interviews. These questionnaires are sent to the residents through the neighborhood closed Facebook⁸ group. The questionnaire is designed to be easily understood by the respondents and includes both close-ended and open-ended questions. While close-ended questionnaire is a method used to generate standardized, quantifiable, and empirical data, this will not be applicable to be implanted in the case in hand due to the limited research scale and time. These

⁸ Facebook is an online social media and networking service.

questionnaires are used only as an indicative method to support the qualitative methodology and in a way of reaching more residents different than those approached in the case study.

Both interviews and the online surveys are done in Arabic for better communication. The identity of all the respondents remains confidential, and they were presented with consent forms either orally or written before participating in the study. The consent forms are attached in Appendix D: Consent Form.

Field observations done in the case-study area are another important method for collecting data regarding the neighborhood. Photos taken by the researcher are used to reflect some of these field observations. In addition, a photo-voice technique is applied by asking participants to share or suggest photos that reflect their experiences or concerns in the neighborhood. Finally, spatial analysis through available maps along with site-inspections and data records are used to investigate the urban form qualities proposed in the framework.

3.5.2 Interviewees Selection and Sample

The interviews and questionnaires were conducted with the residents of the neighborhood South Academy (A) in New Cairo (the case study). At the outset, the sample was selected randomly; then a snowballing technique was followed to make the process easier; each resident would recommend someone to interview if this was applicable. Each interviewee represented their household, and in some cases, more than one member of the same household was interviewed. A total of 16 in-depth interviews were conducted inside the neighborhood for this study. A pilot study was conducted to test the interview adequacy, timing and check for any misunderstandings to be corrected. The complete list of interviewees' profiles and codes are attached in Appendix B: Interviewees Profile.

3.6 Examining the Principles of Socially Sustainable Neighborhoods

Following the conceptual framework, this research will assess the socially sustainable neighborhood by using different active research methods as explained in Table 13, Table 14 and Table 15. First, for the Equity of Access component, direct observations and spatial analysis will be used to check for the available services and amenities within the neighborhood; while obtaining the users' perceptions regarding it, will be through the in-depth interviews and online questionnaires. Second, for the Community Sustainability component, it will be all covered within the in-depth interviews and online questionnaires.

Third, for the Urban Form Qualities component, direct field observations and spatial analysis will be used to check for most of the proposed criteria (land-use, housing typologies, street

networks, housing layouts, built components, blocks, and social spaces). Since density and walkability are quite immense and debatable issues, they will not be tackled in deep details due to the limits and scale of this study. Concerning density, physical density (net residential) and perceived density will be measured. Net residential density is calculated as the number of dwellings divided by (residential land area plus local roads) as explained in Landcom (2011).

As for the walkability, the study will use walkscore.com which is a website that use a patented system to calculate walk scores, bike scores, transit scores, crime grades for each address in supported countries. Walk score methodology has been validated by leading academic researchers (“Walk Score,” n.d.). It analyzes hundreds of possible walkable routes to nearby amenities and points are rewarded according to distances taken. Maximum points are given to amenities within the 400m distance (equivalent to 0.25 miles which is five minutes walking), and no points are given after 30 minutes walking. In addition, perceived walkability issues will be measured through interviews.

Table 13 Social Equity principles, indicators and measuring tools

Principles of Social Equity	Indicators / Variables	Measuring tools
Accessibility and availability of: Basic Infrastructure	Perceived issues regarding <ul style="list-style-type: none"> - Electricity - Water - Sewage - Gas - Cleanliness / Garbage Collection 	Field Observations Questions (Interviews and questionnaires)
Essential local services	Perceived issues regarding local services The presence of: <ul style="list-style-type: none"> - medical: pharmacy, clinic - education: kinder garden, primary school - daily supplies: super marker, grocery, corner shops, laundry - sports: indoor or outdoor sports facilities - religious: mosque (or church) - community: cultural center, library, - banking: ATM, banks - recreational opportunities, open spaces: green areas, children play 	Field Observations Questions (Interviews and questionnaires) Spatial analysis (land use map)

	areas, neighborhood parks, restaurant, café	
Public transport Job opportunities Affordable housing	Residents perceptions	Questions (Interviews and questionnaires)

Table 14 Community Sustainability principles, indicators and measuring tools

Principles of Community Sustainability	Indicators / Variables	Measuring tools
<ul style="list-style-type: none"> - Pride and attachment to neighborhood - Social interaction / networks within the neighborhood - Safety / security (vs risk of crime, antisocial behavior) - Stability - Participation in collective group / civic activities 	Residents perceptions	Questions (Interviews and questionnaires)

Table 15 Urban form principles, indicators and measuring tools

Principles of Urban Form	Indicators / Variables	Measuring tools
Medium density (Culturally accepted range)	Physical Density (Net residential density) <ul style="list-style-type: none"> - Dwellings per hectare - Person per hectare Perceived Density Perceptions of residents about density and crowding in terms of: <ul style="list-style-type: none"> - people (e.g. cars, parking lots, crowded services) - dwellings (spaces between buildings or block size) 	- Calculations from data records and maps - Questions (Interviews and questionnaires) - Field Observations
Mixed land-use	Percent of residential land-use to all other uses <i>(not applicable inside the neighborhood)</i>	- Spatial analysis using maps and data - Field Observations
Mixed and clustered housing typologies	Different housing types available Housing layout	- Field Observations - Spatial analysis using maps
Pedestrian friendly streets (walkability and cycling)	Walkability score by analyzing walking routes to nearby amenities Perceived walkability <ul style="list-style-type: none"> - Perception of residents about walkability and cycling Street furniture and lighting Quality of pavement	- Using walkscore.com - Field Observations - Questions (Interviews and questionnaires) - Field Observations
Connected and integrated street network	Street grid design Access to public transport services Access to surrounding	Spatial analysis using maps
Human scale built components and eyes on streets	Building heights Street overlooking windows / balconies Visually permeable fencing Active building frontages Enclosed streets	Field Observations

Small compact blocks	Block length and area	Calculations from maps
Social spaces (the presence of spaces with social opportunities such as local open spaces, children playing areas, religious or community centers and local street shops as grocery)	Presence of open spaces areas of parks and green areas Presence of mosque (or church) Presence of playgrounds, café shop, street shops, etc.	Field observations and spatial analysis (land-use map)

3.7 Research Limitations

Due to limitations of time and resources, the research studies only some residents of the selected case study in New Cairo. Although it might be considered a small sample, the issue is less relevant since the methodology was entirely qualitative. However, more participants from the same case study would have resulted in a richer understanding of the subject. Therefore, to strengthen the results, a larger sample should be considered and different neighborhoods among the city should be studied to be able to generalize and validate the findings overall New Cairo city. In addition, the case study analysis did not tackle the urban plans and policies from the governmental side, it only focuses on the residents' experiences and perceptions, and so the participants in the research were only the residents and no governmental representatives or other stakeholders.

In fact, the qualitative methods should allow deep understanding of the complex social structure within the new urban communities. Never the less, the need for quantitative empirical evidence is still important to measure urban social sustainability in a more precise way. Social sustainability indicators can be used to be able to compare the results with other cities and benchmarks.

Although the study will provide the Egyptian urban development field with new evidence and insights based on the context and social norms and behavior, there are some limitations regarding the conceptual framework proposed and methods of measurements which should be acknowledged. As explained earlier, setting clear social sustainability attributes that are

adequate for operationalization is very challenging due to its ambiguity and lack of consensus in understanding the concept. In addition, the concept is dynamic in nature and changes over time and place (Dempsey et al., 2011).

The research methodology considers the demographic and socioeconomic characteristics of the residents, however a major general limitation in dealing with social sustainability issues is the difficulty to separate their individual selection and characters from the real causes. For example, people with certain life styles (such as working in a remote place) and certain personal characteristics tend to have less sense of community or place attachment (Bramley et al, 2009). The different human behavioral patterns, norms, traditions, opinions and beliefs result in more complexity and challenges in understanding the social and urban issues deeply.

Another issue is the difficulty in bounding the urban community itself. Urban communities are defined through many ways, which make it hard in setting the exact boundaries for a certain community. Neighborhood scales are very different for example in South America the grid is about 400m x 400m whereas in cities like New York the grid is only 100m x 200m (Berardi, 2013).

3.8 Conclusion

This chapter justifies the qualitative approach and methods that have been followed in the research design. The methodology was designed to enable understanding the neighborhood social sustainability, especially from the residents' perspectives. It overlays the principles that were combined originally from the western literature on the Egyptian reality through the case study analysis. Understanding the social structure is essential to answer the research questions and hence strengthen the social sustainability of our new urban communities in Egypt.

CHAPTER 4: CASE STUDY

Chapter 4: Case Study

4.1 Introduction

This chapter presents the case study analysis where the principles, explained earlier, are assessed qualitatively as per the research design in chapter 3. The chapter starts by introducing a brief background of the city and the case study area, the reason for selecting the neighborhood, then, data are described and discussed for each social sustainability principle as explained in the previous chapter.

Since social sustainability is all about the quality of life of people, the residents and their perceptions are the main focus of the study. The aim of the analysis is to comprehend the social sustainability aspects in terms of perceived livelihood through the residents' eyes and experiences of the existing urban environment. This was done through the research methods which include face-to-face interviews and questionnaires. The residents were also asked to suggest photos⁹ that would reflect a social problem, therefore, they were participating in creating the research tools themselves (photo-voice technique explained earlier).

Although the case study analysis is limited by the scarcity of available data and limited time and resources, it was able to explore the social dimension of the current neighborhood and reflect the final outcome of the urban planning and governance system that have been implemented in the new cities of Egypt. Therefore, this chapter is considered the first step towards understanding the enquired notion which is also the first step to initiate and strengthen it within the new communities of Egypt.

4.2 Background

4.2.1 New Cairo City

New Cairo is a new city located at the Eastern Arch of Greater Cairo Region and considered one of the third-generation cities¹⁰. It has been officially established by the presidential Decree No. (191) for the year 2000 ("NUCA - New Cairo," n.d.). There were many reasons behind the development of the Eastern Arch of Greater Cairo. The most important one was to direct the new developments towards the desert that is nearer to Greater Cairo Region and encourage its

⁹ Most photos presented in this chapter are suggested by the residents themselves.

¹⁰ First Generation: 10th of Ramadan, 15th of May, 6th of October, Sadat, New Burj EL-Arab, New Salehiya and New Domiyat. Second Generation: Bader, Al-Obour, New Beni Sueif, New Miniya, New Noubariya, Sheikh Zayed. Third Generation: New Cairo, Al-Shorouk, New Asiyut, New Luxor, New Souhaj, New Aswan, New Kena, New Fayoum, New Ekhmim (Mahmoud, 2016).

growth, while at the same time minimize the urban sprawl in the rural lands of the north, west and south regions of Greater Cairo. The plan was to absorb the growing Egyptian population from the overcrowded areas of the capital city and attract investments to there, by providing large areas for investors (Farid & El Shafie, 2002).

The total area of New Cairo city is 70,580 Acres (“NUCA - New Cairo,” n.d.) which makes it the biggest city in the Cairo Region. The target is to accommodate 4 million inhabitants in the year 2027 (“NUCA - New Cairo,” n.d.) and it is expected to reach 6 million inhabitants in the year 2050 (Mahmoud, 2016). According to the Central Agency for Public Mobilization and Statistics, the current population of New Cairo is almost 150,000 inhabitants¹¹ (CAPMAS, 2016).

The area allocated for residential development is 43,400 Acres, distributed into low-medium priced apartments, above medium-priced apartments, and luxury priced villas (Eissa, 2011). The total number of housing units are 69764 units, The New Urban Communities Authority NUCA has constructed 34,034 of them, while the private sector has constructed 35,730 units (“NUCA - New Cairo,” n.d.).

New Cairo is about 305 m above sea level (“NUCA - New Cairo,” n.d.). This gives it an enjoyable desert climate (“Climate New Cairo,” n.d.). It has a special geographic location as it is surrounded by the Ring Road from the West, Cairo-Suez Road from the North, Katameya-Sokhna Road from the South, and the New Administrative Capital from the East (“NUCA - New Cairo,” n.d.). It is 10 km from Nasr City, 15 km from Maadi and very proximate to Cairo international airport (Hafez, 2017). Its location and economic potential made New Cairo city stand out among the other new cities where, as per the NUCA, it has gained the greatest investments (Hafez, 2017). However, the city is not connected to the Metro or any other railway network, and buses are the only means of public transportation that connect the city to other parts of Cairo.

As a matter of fact, New Cairo has passed with different developmental stages, see Figure 12, each with different policies and master plans. At the beginning, the initial planning in the 70s was to create the first settlement, the third settlement and the fifth settlement. These three settlements were meant to solve the housing problem and provide adequate housing for the low income or marginalized groups. However, in the 90s the plans changed to link the three

¹¹ New Cairo is divided over three police stations. This number is calculated as the sum of the three: Kattameya, Fifth settlement and first settlement.

settlements and develop the New Cairo City to be a gigantic mass serving different income groups and providing luxury level of housing instead (Farid & El Shafie, 2002; Mahmoud, 2016), see Figure 13. The incremental transformation of policies and change in master plans have led to the exclusion of the poor from the housing market of the city (Bayoumi, 2009), see Figure 14. Moreover, since the real estate investments have become very profitable in New Cairo, the housing process has transferred into huge investments that have turned out to be moneymakers for many people who bought properties (Hafez, 2017).

The final master plan of New Cairo city is currently centered around a main spine with a central business district surrounded by residential neighborhoods with green open areas inside. New Cairo is considered a low-density car-based suburban development (Khorshed, 2017), hence it suffers from the negative impacts of suburban sprawl as explained earlier, see 1.2. David Sims in his book *Understanding Cairo* refers to New Cairo as “very far from any idea of a sustainable city with a low carbon footprint.” (Sims, 2010, p. 209) Hafez (2017) evaluated that the city was unable to fulfill many sustainability objectives including social, economic and urban objectives.

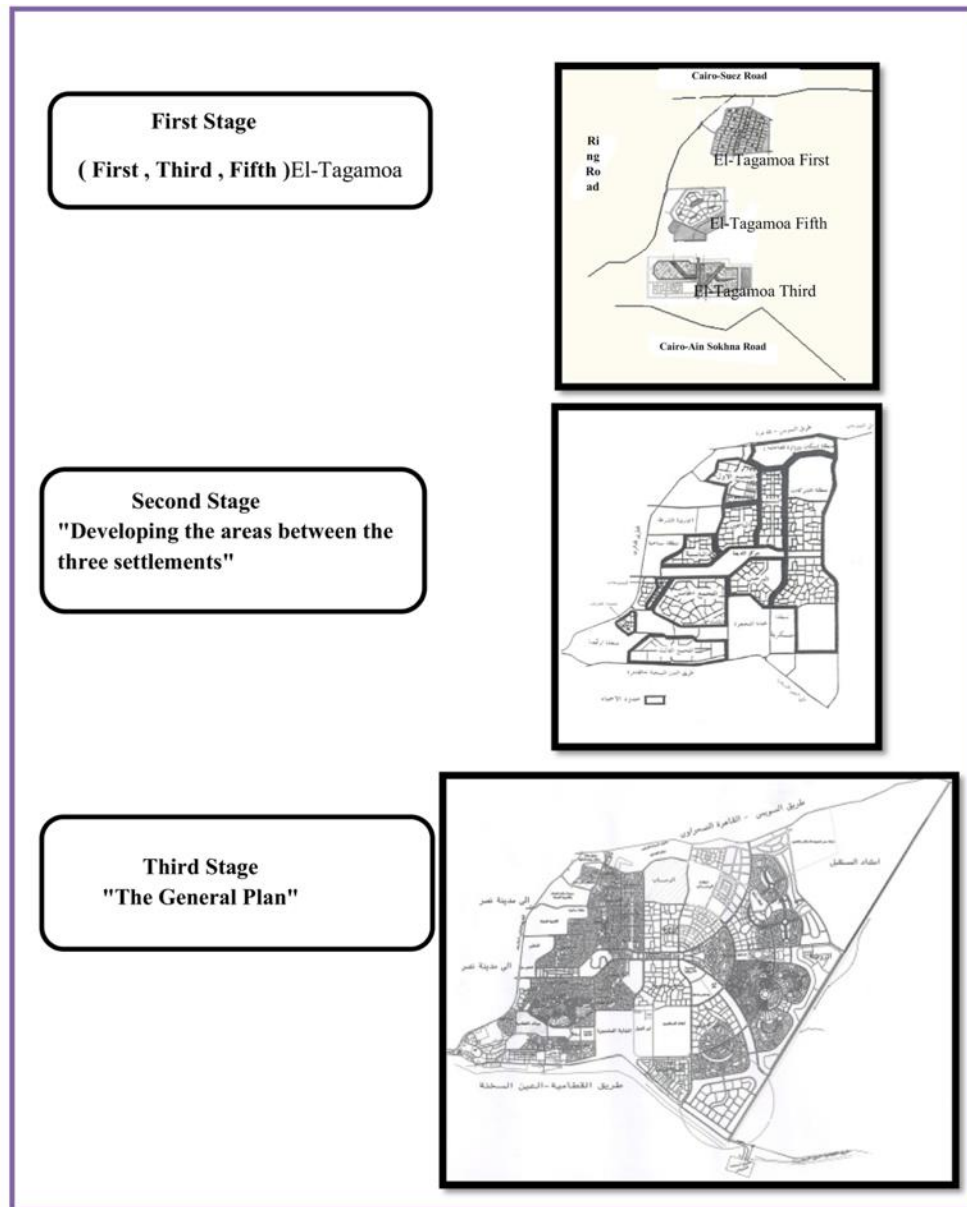


Figure 12 Development of New Cairo City. Source: (Hafez, 2017, p. 92)

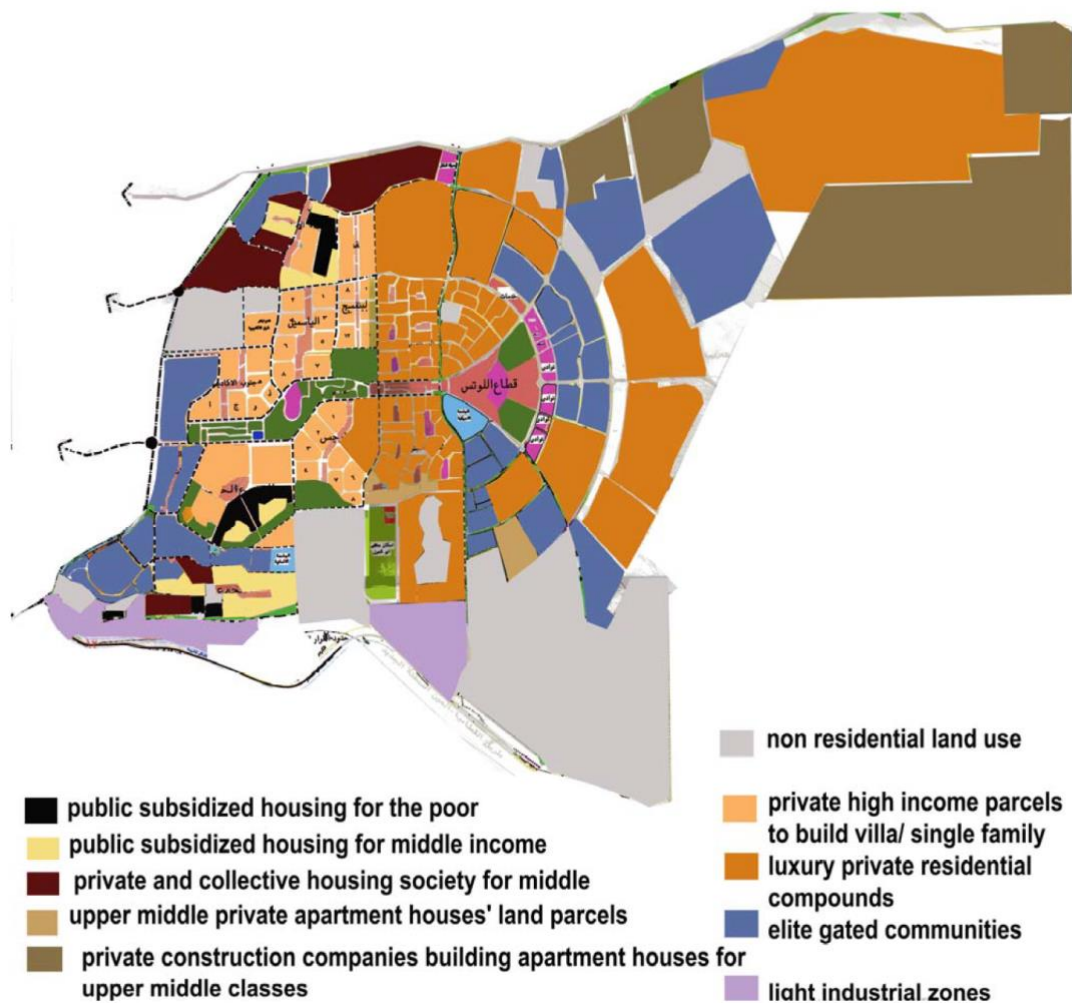


Figure 13 Residential developments. Source: (Bayoumi, 2009, p. 15)

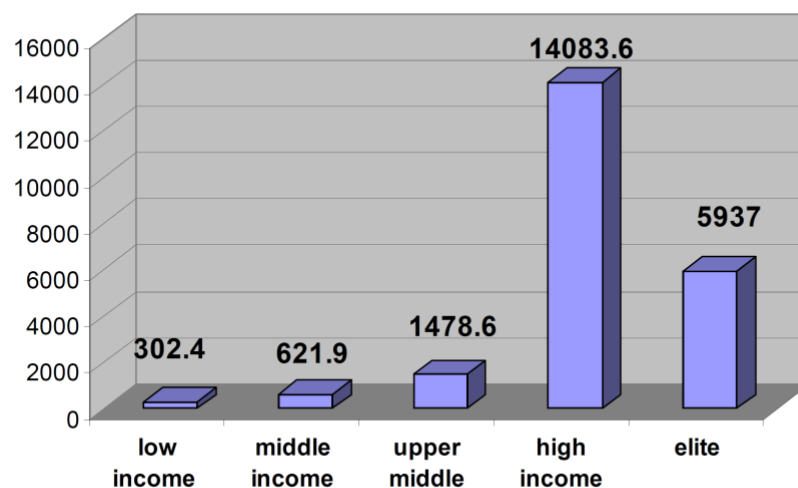


Figure 14 The ultimate allocated residential area for each socio-economic class by hectares by 2027. Source: (Bayoumi, 2009, p. 11)

4.2.2 South Academy District

Recently, South Academy has become one of the distinguished and attracting districts for above-average housing (higher income group) in New Cairo. It comprises seven neighborhoods (or housing clusters) A, B, C, D, E, F and G; which are initially planned as land parcels for villas or single family dwellings. The total number of parcels is 2413 with a population density of 90 person/acres (New Cairo City Agency, personal communication, May 24, 2017). As per CAPMAS, South Academy and Mirage zones have a population of 23203 inhabitants for the year 2016 (CAPMAS, 2016).

The district includes a spine as a service center for the seven residential clusters but until now the development of this spine is incomplete and most of its areas are assigned for educational activities that serve the whole Cairo city. As a result, South Academy is dependent on other districts because of its missing services such as food markets, bakeries, and craftsmen. Public transportation is not available in South Academy; the residents use their private cars or call a taxi for transportation.

The original building regulations for South Academy district allows the residential buildings to have a service basement, a ground floor, a first floor and roof services which should be 25% of the ground floor area. The New Cairo Agency permits building an additional floor after paying a penalty fees equal to 25% of the original price of land (this has been changed recently to be 25% of the average between the original price and the current price of the land). It is obvious that most of the basements and roofs are used for housing purposes and not for services. Many of the inhabitants considered payment of such penalty fees for getting the permit of the additional floor to be illegal and they sued the New Cairo Agency for a repayment. The aforementioned is not only related to South Academy but also to all other districts of New Cairo and other new Cities (New Cairo City Agency, personal communication, May 24, 2017). As a result, many buildings are found to have additional floors that violate the original building codes and planning of the district which would negatively affect parking and streets capacity due to the increased number of inhabitants, as well as the aesthetics of the area.

4.3 Neighborhood Selection: South Academy A



Figure 15 South Academy A selected for case study. (Analysis by author, base map from Google Earth)

Currently New Cairo is considered one of the three most successful new cities in Egypt. Over the last decade, it has been growing at a rapid rate with the addition of new private and public residential areas and the relocation of business headquarters from central Cairo to it (Khorshed, 2017). New Cairo, like all other new cities, follows suburban growth patterns (Khorshed, 2017) where its residential districts are segregated in terms of land use and encompass pure residential clusters with all the services concentrated in the centers. The districts are usually developed in low density and low building heights (Ghonimi, 2017). Most ungated residential areas follow the same concept of planning.

The residential Cluster A in South Academy district, referred to as 'South Academy A', is selected to be the case study neighborhood for this research, see Figure 15. The study followed a purposive selection of South Academy A because it represents one of the typical clusters in New Cairo's residential districts since they all follow the same planning concept. Another reason for its selection is the ease of access and availability of data. The researcher was able to access the cluster and approach the residents by meeting face-to-face and through their closed Facebook group for participation in the research.

The size of the selected neighborhood is about 710,000 m² as calculated from Google Earth. South Academy A is a bit larger than the other six neighborhoods in the district. The other six neighborhoods can fit into the walkable catchment (a circle of 400m radius which is proposed to be the perfect size of a walkable neighborhood), see 2.3.3. The neighborhood has 565 residential units. Through field investigation, it was found that 61 buildings were still empty or under construction while about 25 buildings were partially empty, therefore, we can assume that only 13% of South Academy A that is not inhabited while about 87% has residents in.

4.4 Data Description and Analysis

4.4.1 Social Equity Principles

4.4.1.1 Accessibility and availability of basic infrastructure

All interviewees were fairly satisfied with the provision of electricity, water, sewage and gas. A2 was worried about the infrastructure regarding sewage since some problems appeared in his area. Four residents complained about the cost of electricity and water, A10 and A11 said that it is the highest in Cairo. Only A8 explained that they face electricity cut-offs every two weeks and sometimes it lasts for the whole day. A7 complained about the internet service and explained that it is a general problem in most of Cairo region and not particularly in South Academy district.

All interviewees referred to the problem of garbage collection and lack of cleanliness in the streets. A10 and his wife explained how the garbage collection method is inadequate and that many informal solid waste collectors come every day to the neighborhood to collect plastic bottles and other recyclable materials leaving the garbage bin in an ugly appearance. Others stressed on the need for a specialized company in cleaning the area instead of the assigned existing cleaners who only work for tips, they even referred to them as beggars since they are not cleaning but asking for money instead.

As for the online questionnaire, almost half of the respondents (8 residents) rated basic services as poor while the other 7 residents rated them as good. Reasons for their ratings included negligence, lack of maintenance, problems in water and sewage, poor internet service and poor lightening in streets. Their comments included various reasons and some generalized or unclear answers suggesting that each one comprehended the question differently and not as explained during face-to-face interviews.

The garbage and cleanliness problem is observed in many streets inside the neighborhood confirming what people stated during the interviews. Inadequate urban management is seen in the waste collection methods and the lack of maintenance of the open spatial networks. Figure 16 shows the guards' children throwing the household garbage in the main waste collector. Figure 18 shows an informal waste collector who is searching for valuable wastes and recyclable plastics before the official waste trucks come and take them. Figure 17 shows lack of cleanliness in streets where construction wastes have been piled for many days.



Figure 16 Guards' children responsible for garbage collection from homes. (Photos by author)



Figure 17 Piled garbage and construction wastes. (Photo by author)



Figure 18 Informal garbage collectors passing in the neighborhood. (Photo by author)

4.4.1.2 Essential local services



Figure 19 Land use map of South Academy District. (Created by author, base map from Google Maps)

All essential local services are located outside the neighborhood as seen in the land use map, see Figure 19. The service zone of the whole district has: Seven educational zones that encompass six schools and one university, two mosques and a recreational area comprising cafés, restaurants and one children play area. On the other hand, many essential services are missing including: a pharmacy or a clinic, a daily super market, any groceries, a laundry, cultural or community centers, banking services and sports facilities.

All the residents agreed that the neighborhood lacks essential services and some of them complained that they need to drive their cars only to buy their daily necessities such as bread. “What will be wrong if we have a bakery and a small grocery so I can walk every day to them?” a lady was questioning annoyingly. On the other hand, A8 found no difficulty in reaching services. Another family was against having any commercial services inside the neighborhood because they live in front of the undeveloped land assigned for services; they are worried that by having shops it will be very crowded and noisy to them. They also said that all shopping needs can be found in Cairo Festival City and the ‘Teseen’ road which are very proximate, in addition, neighboring gas stations have supermarkets and other basic services such as ATMs, Pharmacy, hairdresser and a gym regardless of being more expensive.

A1 stressed on the need for nearby outdoor sports facilities; she said “we have good weather and plenty of outdoor spaces that are not used”. In addition, she asked why these “giant parks” do not have a track for walking or jogging. Many other residents also expressed their need for outdoor sports. A7 who used to be an athlete in a younger age explained that this is a main problem for him since he is not a member in any of the sports clubs here in New Cairo, for him they are very commercial and unattractive. He also added to this that the lack of sports facilities in the neighborhood is limiting his social activities and networks.

Four residents complained that there is no mosque proximate to where they live, they have to take their cars and drive to attend the Friday prayers. A13 said that such non-proximity of mosques in the area has resulted in the emerging of some small mosques or praying areas (Zawyas) (with no licenses or permits) inside the residential buildings. A newly married couple explained that they were looking for a café or a place for friends and social gatherings that would be in a walking distance. They also said that the disappearance of street shops or kiosks makes the streets empty and dead.

Some residents explained that there is no balance in the educational services provided. Despite the presence of a vast number of educational facilities, schools and universities, those may not serve the residents themselves. Most of those facilities, specially schools, are considered very expensive and serving a very limited higher social class and not necessarily the surrounding residents. A resident who lives beside the schools’ area explained that the area is negatively affected and crowded by cars and buses at the drop and leave peak times.

Another parent explained that the whole neighborhood does not have any legal daycare or nursery to serve its children. All the daycares open without the permission of the government and when the business starts to grow they are forced to relocate outside the neighborhood to have a legal permit. This was the case with an interviewed entrepreneur who started her daycare project in South Academy A because she believed that there is a market gap and a real need in the area. And it was true, after one year of undercover operation inside a residential building, she had to relocate or else she was facing problems with the municipality. She could not find a place in the same neighborhood because there are no authorized buildings to operate as a daycare inside South Academy. “You have to be a school or else you cannot have a legally authorized place in South Academy” she explained how impossible it was to take an approval for her daycare from the New Cairo city agency. The result was that the new location is now very far inside a gated community which is a twenty-minutes drive from the original place, and

parents were very unhappy with this. It is worth mentioning that the illegal businesses, such as the daycare, that are operating in the neighborhood often harm the direct neighbors in many ways; for instance, the daycare was very noisy to the people around and it caused a lot of parking problems during its working hours.

On the other hand, the conducted online questionnaire confirmed what was said in the interviews. Five respondents find it easy to access essential local services, two respondents find it hard, while the other eight find it medium difficulty. Their comments regarding the issue highlighted the difficulty of walking inside the neighborhood since services are not proximate enough, thus, all their errands require driving cars.

4.4.1.3 Public transport, job opportunities, and affordable housing

Extremely weak public transportation was reported by all interviewees who all depend merely on cars for transport. Some explained that the invasion of applications such as Uber and Careem¹² eases their mobility and running errands. A13 said that the neighborhood needs a simple public bus system to improve the transportation in the city. The transportation problem here is twofold since there is no adequate planned system for integrating the neighborhoods with each other and with the services along the whole New Cairo city, at the same time there are no methods for transport inside a neighborhood per se.

All sixteen interviewees believe that there are job opportunities not essentially inside the neighborhood but very proximate. However, thirteen respondents of the online questionnaire said that there are no job opportunities inside the neighborhood. Only two residents said that South Academy A has job opportunities.

Regarding the housing affordability, most interviewees were owners, so the question about the rent was not applicable while only one tenant in the online questionnaire reported that the rent is relatively very high.

4.4.2 Community Sustainability

4.4.2.1 Pride and attachment to neighborhood

Almost all interviewed residents felt positive towards their neighborhood, this was obvious in their use of words such as: “I feel comfortable here,” “I feel attached,” and “I love my neighbors.” A7 said that he likes the neighbors around him and that the neighborhood is very

¹² Uber and Careem are transport companies based on technology platforms which connect drivers with riders through mobile applications.

promising. A3 and A5 said that the neighborhood is comfortable and relaxing. A9 loves how calm it is. Despite this, they were all unsatisfied with its appearance; most of them complained about lack of cleanliness, poor pavements, and the unmaintained open spaces. A2 believes that the architecture is not in harmony and he is unhappy with the building violations that are done by some people who extend their roofs or build extra floors. A3 explained that he is against the huge fences around the buildings and that no front gardens are designed. For him, the presence of front yards with minimal fences would make the neighborhood more lively and friendly.

Only two residents who showed somehow negative feelings towards South Academy A. A14 explained that he does not feel a strong sense of belonging to the place although he has lived there for 13 years. The reason for this is his nearby neighbors who are very unfriendly with him. Moreover, A6 suffers from street vendors and loud noise from the newly built 'Shorta mosque' in front of her home. The new mosque is used for wedding and funeral events; hence, it attracts a great number of cars that park in their surrounding area causing them annoyance.

All the respondents of the online questionnaire were generally satisfied with the neighborhood. Four residents said it is appealing, three said its appearance is not satisfying, while the others were in between those views. Twelve residents selected positive feelings such as love, attachment, pride and contentment to describe how they feel. On the other hand, three residents reported that they feel disappointed because of negligence and poor planning.

4.4.2.2 Social interaction / networks within the neighborhood

The insights regarding the social interaction principle were quite different from one resident to the other. All female interviewees reported that they know a very low number of neighbors. Only one lady knows three of her neighbors while the others know less than three or even no neighbors at all, and they rarely meet with them. A6 mentioned that only people who had known each other before moving into South Academy A are good friends. Her mother wanted to find friends in the neighborhood because she feels she is losing her social life. A1 would love to have stronger relations and more common activities with her neighbors. She tried to organize a walking or jogging event with some of her neighbors, but they failed to agree on a time and a place; she believes that people are very negative and lazy to start any initiatives.

On the other hand, many male residents reported that they know a larger number of neighbors such as fifteen and twenty. Many of them stated that they know their neighbors from the mosque since they pray together, and they meet at every prayer on a weekly or daily basis. A14 said that he invites some of his neighbors on Fridays after the prayer for tea in his garden.

However, A9 said that he barely knows one neighbor despite living in the area for more than nine years, but he meets with many people from outside the neighborhood in the mosque. He also explained that he sees the gradual increase of social isolation in Egypt in all aspects of life and he does not know the reason behind this. He also referred to the phenomenon of residential segregation which is obvious in the new cities of Egypt where each socio-economic level isolates itself into a secluded environment.

The online questionnaire revealed that most of the respondents who know low number of neighbors (from one to three) are women except for one lady who said she knows more than ten neighbors but she does not meet with them at all. Another lady said that she knows some neighbors (between four to seven) but she rarely meets with them. The reported number of meetings between neighbors was not consistent. Three respondents said they do not meet at all with any neighbors, five respondents said they meet yearly, another five said they meet monthly, and four said they meet weekly. Only one person said that he meets every day with his neighbors, but the other question revealed that most of them are his extended family.

4.4.2.3 Safety/security (versus risk of crime and antisocial behavior)

More than half of the interviewed residents stated that South Academy A is a safe neighborhood relative to the whole country and even some of them said that it is safer than many areas in Egypt. A2 said that she can walk during the day and even in the night time but if she has company. A3 emphasized the fact that the neighborhood is very safe despite the lack of security or law enforced surveillance. He explained that during his childhood, which was in an old town in Cairo, he used to see a “Shawish” (a police man) passing by during the day and night to check on the residents, a situation like this is currently absent in the Cairo streets.

In general, like other areas in Cairo, there are many private security guards in South Academy. Almost every two buildings there are guards who are hired by owners to take care of their homes and clean their outdoor spaces and cars. Some of them were there to take care of the land before and during the construction process, even before the residents themselves moved to the neighborhood. They are all originally from rural areas usually outside Cairo. Many of them have a family with children and a wife that are staying at the same residence. Some of them run other businesses like opening an undercover small street shop in an unoccupied building, or working as a broker for selling and renting apartments or villas in the neighborhood. Although they have an important role which is taking care of the homes, they

also annoy many people for many reasons. For instance, four residents said they faced stealing attempts to their cars and homes; and that they know that the guards were the ones behind them.

Several interviewees reported that they do not use the open spaces near their homes because the guards and their families are usually occupying them. They also do not prefer to walk in the neighborhood for the same reason. This points out to the fact that the urban residents prefer to be segregated from other different social, cultural, and economic groups; a critical phenomenon which is affecting social cohesion and community sustainability in general.

In fact, most residents do not walk specially at night even the ones who feel that South Academy A is a very safe environment. One of the main reasons which was reported by residents is the stray dogs which exist in great numbers inside the neighborhood. The built environment also has another role; A14 and A16 said that South Academy A is not suitable for walking because of its poorly paved ugly streets. A3 described the neighborhood by being dead where all houses have huge fences, and no active frontages are created to promote a vibrant pedestrian life. Only A12 said that she walks every day for sports with her husband during the day and night.

The online questionnaires had similar residents' insights; ten respondents reported that South Academy A is a safe neighborhood, two respondents said it is very safe, four said it is sometimes not safe while no one said that it is an unsafe area. The respondents stated that the presence of strangers, workers, guards, and fast cars moving inside the neighborhood, in addition to stray dogs, as mentioned earlier, are the reasons that would stop them from walking or letting their children play outside their homes. While at the same time, 14 residents stated that they feel it is safe to walk in the neighborhood.

4.4.2.4 Stability

Most residents stated that they are not willing to relocate and want to stay in their neighborhood. They explained that they simply love it and that it is a decent place to live in compared to other areas in Egypt. Two residents said that it is very calm and comfortable. On the contrary, three out of the 16 interviewed residents stated that they want to move into a gated neighborhood so that they can find more security, cleanliness, maintenance, and overall better living quality. A14 explained that he would like to avoid all the design mistakes that he did in his villa and to escape from the noisy location that he currently lives in. He hopes that he would go to the announced New Administrative Capital, as he expects it will be more satisfying than New Cairo. A6 and A8 also were both unsatisfied with their locations, and they both believed that a gated neighborhood in New Cairo would have much better quality.

Through the interviews and field observations, it was found that the three unhappy residents, who are willing to move from South Academy A, live in more defected blocks than the others. The residence of A6 is located in front of the newly built 'Shorta mosque' which is causing noise and crowd to her block, besides, she finds street vendors nearby her place. A14 also, faces street vendors and buses parking to serve workers from Cairo Festival City¹³; this is causing noise and garbage in the area, see Figure 20 and Figure 21. A6 explained that she does not want more services to open in South Academy A; for her, this will further deteriorate the area. She gave an example of an existing service area developed in another neighborhood in New Cairo and explained how it resulted in crowd, noise, and chaos to the residents. The online questionnaire has a similar result as the interviews; only two out of the 16 respondents said that they want to relocate their residences in the future while the remaining 14 said they are not moving anywhere.



Figure 20 Informal street vendors who were serving workers. (Photo by author)

¹³ Cairo Festival City is a mixed-use urban community developed on a land area of 3 million m² by Al-Futtaim group. For details about the project see <http://www.cairofestivalcity.com>



Figure 21 Buses used by workers of Cairo Festival City. (Photo by author)

4.4.2.5 Participation in collective group/civic activities

There is an attempt to initiate a local neighborhood group or an official residents' union which has started by some active inhabitants in South Academy A since April 2016. They created a closed Facebook group and recently a WhatsApp¹⁴ group so that they can communicate and agree on meetings. The local group aims to strengthen the local actions of South Academy A and its initial objectives are to create gates with security for the area and hire a maintenance and cleaning company. Although some residents met together to discuss how to create the union, the legalities that will be required, and how to collaborate with the other residents of the neighborhood, no serious formal decision has been taken until today. While the number of residential buildings is 560, the WhatsApp group is only 37 members and the Facebook group is 123 members, which means the group is reflecting less than 20% of the neighborhood residents and even many members of these groups are inactive.

“People has no spirit for collective action” this sentence was repeated by some interviewees justifying why the situation is not improving in South Academy A and any other similar neighborhood in Egypt. For example, A13 stated that his direct neighbors are very negative toward their block; they do not care if anything is not functioning in the street. A13 usually goes to the New Cairo City agency to call for maintenance whenever something goes wrong, for example, an electricity cut-off in the street or a problem in a water pipe, but he does not see any nearby residents doing the same. A9 sees that the centralized system of the country does not allow any local action to occur and so, limiting many possible civic activities. He does not expect that the residents' union idea would survive since very few people who are positively active towards their neighborhood. He also adds that it is very hard to control such number of

¹⁴ WhatsApp is an instant messaging platform for mobile phones.

people in a union without a strong system that is obliged by all. A3 also, stated that people could influence their neighborhood, but the system is challenging them. He further explained that if all residents agreed to change the land use of a certain building inside the neighborhood for a specific reason, it is still will be an illegal action because of the current urban governance system. A7 stated that currently the residents have no any influence on the decisions regarding their neighborhood except for very few individual cases; for example, someone who has a governmental power through their job.

On the contrary, there are some residents who believe greatly in the residents' union idea. A6 thinks that the people can impact their neighborhood greatly if they have the will and collaborate positively together. She is one who created the groups on WhatsApp and Facebook and she has started to spread the idea of the union with other neighbors. In the beginning, she left a paper note in front of many houses so people would know about the group and each resident informed the others in their block. A2 also explained that the union idea is the only way for them to express their needs, upgrade the services, improve the security, and maintain the neighborhood to be in a good overall quality.

In general, most interviewees reported very limited participation in the neighborhood activities. A1 and A4 expressed their need for participation in various activities. A1 suggested that residents can walk or jog together. A4 stated that there are many open spaces which are not utilized and can be used for football games or any other kind of outdoor sports.

The respondents of the online questionnaire were divided into two groups. Nine residents said they participate in activities such as religious and social including family and friends' gatherings and celebrations mostly on a weekly basis. The other nine said they do not participate in any activities at all but they would like to do so.

4.4.3 Urban Form Principles

4.4.3.1 Medium density in a culturally accepted range

Calculated physical density:

The net residential density of South Academy A is calculated as: number of dwelling units divided by (residential land area plus local roads) as explained in (Landcom, 2011), see Figure 22 for the land use areas.



Figure 22 Neighborhood land use areas calculated using Google Earth. (Analysis by author)

The number of land plots or residential buildings is 565, however the study was unable to know the exact number of dwelling units since buildings accommodate different numbers of dwellings. The South Academy district was originally planned and sold as villas or single family dwellings which means that the net residential density would have been 8.7 dwellings per hectare if it was built as per the original plan. However, as explained in 4.4.3.3, the buildings vary in their typologies due to residents' appropriation. Numerous buildings are divided into apartments accommodating from 2 up to 6 households per building, therefore, if we assumed an average of 3 households per 1 building which is an apartment in each floor, the net residential density will be about 26 dwellings per hectare.

Also, the population density is planned to be: 90 person/acres (New Cairo City Agency, personal communication, May 24, 2017) which equals 220 person/hectares.

Accordingly, if medium density ranges from 15 to 30 dwelling per hectare (Dempsey et al., 2012) see 2.5.1.1, this means that the current density of South Academy A can be considered medium.

Perceived density:

All interviewees stated that they do not find crowd in the neighborhood. However, A11, A2, and A7 expect that it will be crowded in the future. A11 and A7 were very unhappy with the distance between the dwellings; they both said that it is very narrow and that a planning in the desert like New Cairo city should have accommodated wider distances between the buildings. Many residents said that parking areas are sufficient but A7 stated that he finds parking lots very limited near his residence.

Like the interviewees, the perceptions of the questionnaire respondents were also contrasting with each other. Nine residents see the occupancy and congestion in the neighborhood to be optimum, while four said that occupancy is higher than it should be. Only two said that it is less than it should be. Similarly, eight respondents saw that the distances between the buildings are optimum while seven said it is very proximate and that it should be wider. The parking lots were found sufficient by nine residents while the other six said that they are insufficient and they need to be increased.

In general, the residents did not seem to have a problem with the existing density but they seemed to be against more compactness. Also, their need for privacy was indirectly emphasized throughout their conversations about the boundaries between the buildings; most of them preferred to live in more private buildings than the current existing ones.

The parking issue differs from one resident to the other due to many reasons. Some dwellings have their own parking spaces in their basement floors where they usually accommodate one or many cars according to the design of the basement, but some others have their basements for different uses. Also, each dwelling has a different number of families, and so different number of cars. Obviously, the parking problem usually coexists with service/public or office buildings where there is no car parking space for the vast number of users of those buildings.

An example of the above-mentioned problem can be seen inside the commercial and banks zone, between the neighborhood and the Teseen road, that is accommodating a huge number of employees from different areas of Cairo without sufficient parking spaces. As a result, many of these employees intrude into the neighborhood local streets and park their cars inside or at

the edge of it. This does not frustrate only the residents living near the borders, but also all residents of the neighborhood due to the congestions at the gateways at the time those employees are leaving, see Figure 23 and Figure 24.

Since walkability is very limited inside the neighborhood, the use of cars is the only transport method for residents. That is why some interviewees preferred not to have more services in the future inside South Academy A to avoid crowd and parking problems.



Figure 23 Employees cars parking inside and at the borders of the neighborhood.
(Photo by author)



Figure 24 Parking at the gateway of the neighborhood becomes congested during rush hours. (Photo by author)

4.4.3.2 Mixed land-use

As seen in the land use map¹⁵, Figure 19, there is no any other uses inside the neighborhood except residential and green open spaces in each block. The services zone is located outside the walkable catchment and it is serving the whole district. There are some businesses and services which are running undercover among the residential area such as nurseries, gymnasiums, offices and art studios.

¹⁵ The official development plan for the service zone is attached in Appendix E: Original land-use map from the New Cairo City Agency.

4.4.3.3 Mixed and clustered Housing typologies

South Academy is originally planned to accommodate unvaried housing typology which is detached single family dwellings or stand-alone villas for the higher income groups. However, it is currently accommodating different housing typologies due to residents' appropriation since many residents built their land plot as a multi-family dwelling which has a different number of apartments. Today, one can buy or rent a villa, a one floor apartment, and a duplex apartment in South Academy A. The apartments and duplexes vary in their areas since some apartments are built on the whole floor and some are built on half only as per the architectural design.

The layout of housing is clustered in U-shapes around open spaces. As per Karuppannan and Sivam (2011), the design should be promoting social sustainability since people are close enough to meet and interact, and windows are watching the streets. However, since there are many other urban factors that affect social sustainability, the clustered layout per se did not seem to improve it since our research analysis and observations did not find neighbors interaction as described.

4.4.3.4 Pedestrian friendly streets for walkability and cycling

As per walkscore.com, South Academy A is car-dependent. The walk score at the middle of the neighborhood is 30 out of 100 which means that most errands require a car whereas it increases up to 62 at the southern edge of the neighborhood, refer to Figure 25 for the walk scores.



Figure 25 Walk scores as per walkscore.com. (Study modified by author)

The neighborhood falls between two categories of scores. First, the range between 50 to 69 is named by the website ‘somewhat walkable’ because some errands can be accomplished on foot while the range between 25 to 49 is ‘car-dependent’ where most errands require a car. The travel time map for walking 20 minutes is shown in Figure 26 and for riding a bicycle in Figure 27, they illustrate how far a resident can reach in the given time.



Figure 26 How far a resident can reach in 20 minutes walking from middle of South Academy A. (Source: walkscore.com)



Figure 27 How far a resident can reach in 20 minutes by bike from middle of South Academy A. (Source: walkscore.com)

Perceived walkability and cycling

The interviews also revealed that the neighborhood is very poor in walkability and cycling, thus, cars are the main transport method. However, some interviewees often walk for different reasons. A10, A11, A12 and A16 reported that they walk sometimes as a way of exercising. A10 walks three times per week with other relatives around his block, while A12 walks with her husband in the neighborhood every day before sleeping. A16 said that he goes to walk in the shopping mall ‘Cairo Festival City’ regularly because he feels safe in the decent and clean environment, and there are no cars or dogs to worry about. Only A7 and A14 stated that they often walk to the supermarket.

Most residents explained that the streets and pavements are not suitable for walking, see Figure 29. They all complained from the presence of stray dogs, see Figure 28, and most of them agreed that they feel unsafe during walking because of the fast-moving cars. Besides, the lack of nearby services discourages them from walking since most errands require crossing the main roads such as Teseen road where cars drive very fast. As for cycling, A9 was the only resident who used to ride his bicycle to reach nearby places such as the mosque, but recently he has stopped doing this “out of laziness” as he described.

The online survey supported the same results of the interviews and walkscore.com. Eight respondents said that it is very hard to walk in the neighborhood due to same reasons mentioned by interviewees. Four respondents said that it is not hard to walk but they do not usually walk and three said they walk sometimes.



Figure 28 Stray dogs. (Photo by author)



Figure 29 Ruined pavement, sidewalks and broken street lighting. (Photos by author)



Figure 30 Mid-block pedestrian walkway sometimes used for parking. (Photo by author)



Figure 31 Tree and grass covering the pedestrian walkway. (Photo by author)

4.4.3.5 Connected and integrated street network

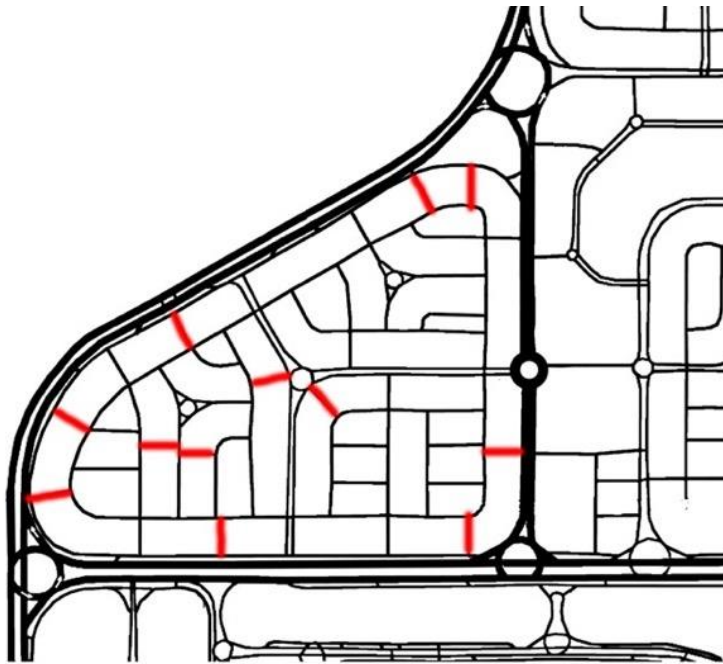


Figure 32 Street network, mid-block walkways in red. (Analysis by author)

The street network follows a curvilinear tree-like pattern, which is hierarchical with loops. The presence of arterial streets around the neighborhood defines its boundaries and isolates the residential area from cut-through traffic, refer to Figure 32.

The street network accommodates vehicles only since there are no pedestrian or cycling routes found in the neighborhood. There are sidewalks around the blocks but they are suddenly discontinued and even some residents take over them by planting in front of their dwellings, see Figure 33. Although there are pedestrian mid-block walkways in between the longer residential blocks (illustrated in red in Figure 32), they are not connected to a wider pedestrian layout. As a result, no residents use them for walking and even some residents use them as private parking spaces for their cars, see Figure 30 and Figure 31, this proves that these mid-block walkways are not designed efficiently. A good design should guarantee a safe, well-maintained, appealing walkway to ensure that they would be usable as intended by pedestrians ("Transit-Supportive Guidelines," 2016) .



Figure 33 Disappearance of sidewalk due to resident's takeover. (photo by author)

4.4.3.6 Human scale built components and eyes on streets

Through the field observations, it was found that the feeling of scale through the built environment differs from one zone or street to the other. Although the building heights are almost the same where most buildings are three floors or less, the changes in the configuration of the open spatial network within each block, as seen in Figure 22, result in different experiences of enclosure. For example, dwellings are overlooking: narrow local streets (Figure 34), wide main streets (Figure 35) or arterial roads (e.g. the ones located at the borders of the neighborhood), massive green open spaces (Figure 37), narrow green open spaces (Figure 36) and triangular squares.

The lack of human scale is obvious in many blocks; for instance, Figure 37 shows an empty open green space whose area about 11,300 m² and its dimensions is 132m x 90m which is even bigger than a standard soccer field (Figure 38). Such overly sized dimensions would discourage pedestrian activity and minimize the communal contact between the residents and therefore, less sense of community is created (Hemani et al., 2016).

Dwellings are seen to have active frontages and street oriented windows and balconies, see Figure 39. Such qualities should promote street activity and improve the sense of 'eyes on street' developing natural surveillance which increases the residents' feelings of safety. Also, people would better perceive their surrounding built environment which should encourage social interaction and cohesion (Hemani et al., 2016).



Figure 34 Dwellings overlooking local streets. (Photos by author)



Figure 35 Dwellings overlooking squares and wider streets. (Photos by author)



Figure 36 Dwellings overlooking narrow green spaces. (Photos by author)



Figure 37 Dwellings overlooking massive green spaces. (Photos by author)

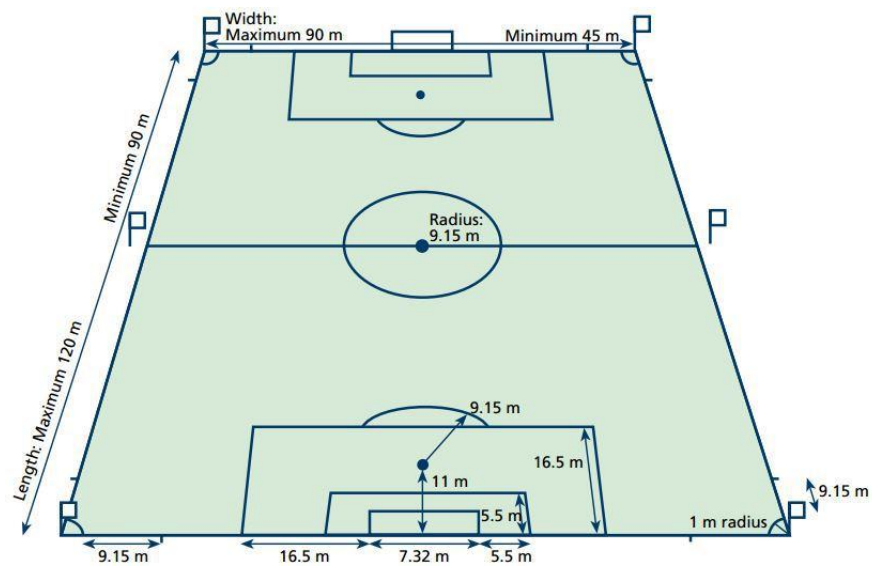


Figure 38 Standard soccer field dimensions. Source: (“Soccer (FIFA) Field Dimensions & Layout,” 2015)



Figure 39 Active frontages, street oriented balconies and windows. (Photos by author)

4.4.3.7 Small compact blocks

South Academy A encompasses 23 blocks which vary in their length and area but with almost same width, as seen in Figure 40. The area of the smallest block is approximately 5200 m² and its length is about 100 m while the area of the largest one is approximately 37000 m² and its length is about 550 m including two pedestrian walkways in the middle (calculated from Google Earth). As per Hemani et al. (2016), who classified block sizes in their study as small if less than 2000 m² and medium if between 2000 m² to 4000 m², South Academy A has 17 small blocks and 6 medium sized blocks. The length of some blocks is considered too long since many exceed 250 m long which is the maximum length as per Ontario's transportation guidelines ("Transit-Supportive Guidelines," 2016). This negatively affects permeability, walkability, and proximity to destinations (Hemani et al., 2016).

Block sizes have a non-linear effect on pedestrian accessibility, and there are other attributes that should be considered with them. "The ideal blocks size for maximizing pedestrian accessibility varies according to the parcel and street dimensions that are used" (Dagenais, 2017). Consequently, one cannot say that they need larger or smaller blocks in South Academy A before studying the whole neighborhood plan to guarantee synergies between the different urban form principles and achieve the best possible outcomes.

From a wider perspective that looks at the whole New Cairo city, South Academy A, similar to other neighborhoods in South Academy district and Jasmine district, is considered by Ghonimi (2017) as an isolated and inaccessible super block island, see Figure 41. This kind of development affects New Cairo city negatively since it restricts the continuity and connectivity of the urban fabric. The arterial roads that are around the neighborhood act as barriers which despite minimize the through traffic, they disintegrate it from the whole city. Although, the use of super-blocks was originally favored by early urban planners, see 2.3.3. Their design was mainly to promote pedestrian accessibility to services and provide open spaces for social interaction. On the contrary, the case of South Academy A does not support this at all. The neighborhood is mostly car dependent and discourages errands walking. The interior of such super block lacks the pedestrian network and active service zones which result in dividing the city into numerous segregated residential clusters.



Figure 40 Blocks in South Academy A. Largest block shaded in dark red and smallest block shaded in light red. (author analysis, base map from Google Earth)



Figure 41 South Academy seen as isolated mono-functional super blocks. (Analysis by author)

4.4.3.8 Availability of social spaces

As seen in the land use map and photos, there are abundant open green spaces in each block that have endless social opportunities for children and adults, however, residents do not use them for any activities or sports. Reasons for this may be the emptiness of the spaces, the absence of designs and outdoor furniture, the issue of safety and security, the life style of the residents and the fact that some people prefer to isolate themselves from lower social classes since most users of these spaces are the guards and their families, see Figure 42.

There are no other social spaces except these open areas. However, café shops and a mosque are considered proximate since they are located at the edge of the service zone.



Figure 42 Guards' children were playing different games using the open spaces. (Photos by author)

4.4.4 Other Residents' insights

Through the interviews, there were some suggestions from the residents to improve their community. A3 has this new idea about a mobile application that could re-establish the concept of the neighborhood in the new cities of Egypt. Basically, the idea is about dividing the city into small neighborhoods according to performed geographical analysis of the areas, and then creating a unique social platform limited for the registration of the people living in this neighborhood. This platform will then be used to engage the neighbors in some sort of social activities. For example, this can include that someone can find and hook himself with a walk partner, a gym partner, or simply anyone up to doing anything of same interest. In addition, a car pooling system can be built on top of this platform so that people living next to each other

can find and share rides. It can also allow for an online boutique for buying and selling of unwanted stuff, and can have chat rooms where users can discuss ways of improving their neighborhood.

The whole system will be enhanced with a point reward system to incentivize people to become more socially involved; if a user as an example responded to another user request, then the former will gain some kind of recognition in trial of creating a competitive environment that can encourage people towards a better communal behavior. This idea is already applied in the United States of America and many people depend on the mobile application to keep up with everything in their neighborhood.

A13 explained that there is a pressuring need to end the construction process since about 13% of the dwellings are still under construction. The construction results in deteriorating the surrounding environment and damaging the streets by the produced construction wastes. He stated that the New Cairo authority should set limits and start enforcing the laws to move on from this “temporary phase” as he called it, to a more livable and manageable phase. A13 as well as A16 suggested to hire a company for maintenance and cleaning.

CHAPTER 5: CONCLUSIONS & RECOMMENDATIONS

Chapter 5: Conclusions & Recommendations

5.1 Summary

This research emphasizes the importance of developing socially sustainable neighborhoods in Egypt as a way of achieving overall sustainable development which would allow for the prosperity of current and future generations. The study was a response to profound observations pursued and knowledge gaps that were found in the Egyptian context; specifically, regarding the questionable social structure of new urban communities such as the recent ones found in New Cairo city.

Many recent studies confirmed that urban social sustainability is an intensely contested issue, complex in operationalization, and contextual. Therefore, an important aim of the research is to fully understand its different dimensions, particularly within the neighborhood urban scale. To accomplish this, a comprehensive literature review was conducted to discuss the notion and the controversial theories that are related to it.

A conceptual framework was formulated out of the literature review to answer the question of how can we define and strengthen the social sustainability of new urban communities in Egypt. The conceptual framework was then tested in a case study analysis to understand the local social structure and problems, and to assess through qualitative methods how the new Egyptian neighborhood measures up regarding social sustainability.

The case study analysis contributed to a deeper understanding of the social context, deficiencies, and problems found in the Egyptian new cities. The findings led us to conclude that neighborhoods similar to the case study are quite far from social sustainability. The design of the built environment and the present urban governance structure have major impacts on both community sustainability and social equity within the neighborhood. Finally, a modified conceptualization for a socially sustainable neighborhood was proposed to better relate to the Egyptian context; and accordingly, a set of recommendations were suggested to help strengthen the social sustainability of the new urban communities in Egypt.

The study clearly has some limitations due to its pilot scale and lack of time and resources; it only analyzed one neighborhood as a case study which is considered an incomplete picture that might not be generalized. However, it is the first step towards enhancing the understanding of the under-researched essential notion of urban social sustainability. The research has important implications indeed, as it displays one of the real experiences of the current Egyptian urban development in attaining social sustainability in new cities, and proposes a guiding framework

that can be used by urbanists and policymakers to develop socially sustainable neighborhoods. It is also worth mentioning that the research topic has general constraints that challenge its measuring and validity, these include the lack of consensus regarding the topic and the variety in individual personalities, lifestyles, and opinions which may change accordingly.

5.2 Highlighted Findings and Discussion

5.2.1 Social Isolation

Regarding community sustainability, social interaction and networks were found to be very limited for most residents but even more apparent in case of the females who do not meet in any common activities together, contrary to the male residents who meet during prayers at the mosque and have the chance to know each other there. This stresses the need for common places with more social opportunities for the residents to meet and interact inside the neighborhood. Such social places would also positively impact their sense of belonging and attachment to the place as well as increase their participation and collective activities. Obviously, social spaces should be provided for different genders and age groups; for example, adults would need a café or a restaurant to socialize whereas children would need play areas or parks.

As for participation and collective activities, the neighborhood is currently witnessing an attempt from some of its active residents since they are trying to initiate an official residents' union. The issue is quite debatable since many interviewees stated that they do not believe that such idea would help their community while others support it and are trying to spread it even more. Some residents consider the union as only a course of action to transfer their vicinity into a 'gated compound' to be more lavish like the numerous ones located in New Cairo which would also guarantee for them more security and better control over their area. Others believe in the importance of empowering local actions and the rights of citizens to participate in developing their cities.

In general, there are no participation or group activities, programs, gatherings or sports events in South Academy A. After all, the residents' union is still only an idea that has been thought of but not executed. Many challenges are facing such an idea since the urban governance and institutional set-up of New Cairo like other Egyptian cities do not allow for decentralized governance and public engagement. Not all the residents have the will to act and pay extra money for developing their neighborhood; especially tenants who are usually considered temporary inhabitants and do not care to support similar ideas or any unions.

5.2.2 Social Stratification

It seems that residents of some of the high-end neighborhoods of Egypt preferred not to engage in any activities that would entail their usage of the public spaces and streets or amenities found in the neighborhood; in order not to mix with other lower social strata who also live in the area. Those residents explained that they do not use the abundant open spaces around their homes or even walk in the neighborhood as these spaces are filled with guards and their families who are always sitting in them.

The phenomena highlighted by the case study analysis is not strange, it reflects the inevitable current situation in Egypt where the gaps between the country social classes or levels have very much widened in a way that almost completely banned social interaction between the high-end and low-end social classes. Now the rich are always in a hurried attempt to abandon any place or event as soon as the people at the lower social stratum steps in or get familiar with. On the other hand, the poor view the people at the higher social stratum as aliens coming from another world with a very similar human needs yet very distinct living styles.

The situation reached a point where the rich cannot even bare the look from the poor, and find it very uncomfortable due to the intolerable social gap and enormously varied standards of comfort. Hence, the streets and public open spaces became no place for them, and their life presently revolves around gated communities; transporting from a closed house by a closed car to a closed work place; everything in their life became sealed and limited to the interaction of the same upper classes.

Accordingly, this phenomenon has thrown up many questions in need of further investigation through future research. It is critical to understand how urban planning and development would be able to sustain the broad and diverse social spectrum that is currently growing in the Egyptian cities. Research should consider the root causes behind this social stratification and its relationship to our present urban mode and lifestyle.

5.2.3 Limited Access

It was found that the equity of access principle suffers tremendously since the neighborhood lacks many of the essential services and amenities. The urban planning of the city did not consider this principle on the micro-scale of a neighborhood resulting in isolated residential clusters where essential shops, schools, health centers, and recreational opportunities are all located outside their walkable catchment boundaries. This justifies why many of the residents reported that New Cairo city, as a whole, is their neighborhood when they were asked to define

their community. This also confirms that the sense of being enclosed in a human-scaled neighborhood does not exist among the residents. The evidence found points to what was discussed by Hamiduddin (2015) regarding the significant role of the planned urban layout in providing services and transportation while at the same time fostering social equity within a neighborhood.

Transportation is another major problem since no public transportation systems are provided, leaving cars to be the only method. On the other hand, the study was not able to assess housing affordability due to the difficulty of collecting relevant data. However, it is known that the South Academy district is planned for high-income class only.

Finally, the study concludes that the limited accessibility negatively affects community sustainability and wellbeing especially social interaction and networking which confirms the previous results of Hemani et al. (2016) as explained in the literature review.

5.2.4 Issues regarding Urban Form

From a macro-perspective, the urban planning of the district resulted in isolated residential super-blocks which are disconnected from the city fabric. The concept of super-blocks was originally created by Clarence Stein and Henry Wright to emphasize the pedestrian accessibility of the neighborhood unit. This concept is not implemented in New Cairo where the super-blocks do not encompass any active service zones, and discourage pedestrian accessibility and walkability in general.

In addition to the absence of an efficient pedestrian network, there are huge empty green spaces that are not maintained since they were not designed for any use. These open spaces are left dead in the neighborhood resulting in various adverse impacts on residents; such as losing the sense of place and feeling unsafe. The results clearly substantiate what Jacobs (1961) and all following scholars have proposed regarding the significant role of open spaces in strengthening the community and promoting the feeling of safety and security through more eyes on streets.

The calculated physical density might be considered medium compared with suggested average ranges from the literature. However, our work has some limitations since the calculations are based on rough estimations of the number of dwelling units. Although medium density is one of the favorable urban form qualities, it did not foster social sustainability. The results confirm what was explained in the literature review by Bramley et al.(2009) and Hemani et al.(2016) that one cannot depend on the density measure solely to improve social sustainability, and that

it should be in synergy with other favorable urban form qualities such as mix of land use and human scale which are obviously missing in our case study.

The field observations suggest that the neighborhood fails to sustain itself socially and economically. It is important to further research the density issue to be able to determine the thresholds that would work best in the Egyptian society taking into consideration that each area would differ from the other.

As of the perceived density, all residents reported that they would not accept more compactness than what already exists. For them, the low density is one of the reasons they moved to New Cairo. In fact, it seems that Cairene residents who moved to New Cairo were trying to escape from the overcrowded streets and areas of the downtown districts. That being said, questioning the right density that would be culturally accepted and at the same time economically as well as socially sustainable for a neighborhood is a must; in light of the contrast found between the perceived density and the actual density and in light of the urban design has a great role in changing the perceived density.

5.2.5 Inadequate Urban Governance

The findings of the research point to the major problem of the inadequate urban governance that is currently in control of the existing and new Egyptian cities. Urban social sustainability is found to be totally neglected within the existing policies and plans; to the extent that resulted in various social issues as presented in the case study analysis. The urban planning of the case study and similar neighborhoods is seen to be unsatisfying the needs of the community, this is clear from how the residents violate rules and building codes to fulfill their needs in the neighborhood. For instance, the unmixed residential land use led people change the uses of their homes or parts of their homes to run undercover businesses or services such as nurseries, gymnasiums, private offices, art studios and even small mosques.

Furthermore, the current centralized system does not allow for any local actions or citizen participation to take place. As a result, the residents do not have any legitimate authority on their own neighborhood. In addition, the urban management of services, assets, and resources is quite weak. It is one of the reasons behind the idea of initiating a residents' union; because residents want to have more control on their neighborhood for example by hiring private companies to take care of the service delivery and its maintenance.

5.3 Modified Conceptual Framework

After thoroughly exploring the notion of socially sustainable neighborhoods through studies found in the western literature, the case study was an attempt to situate it within the Egyptian context. To achieve a socially sustainable neighborhood in Egypt, the findings propose relative modifications to the conceptual framework that was initially formulated from the western literature.

Before the field work, the operationalization of the notion was initially presented as only the sum of the three principles: equity of access, the community sustainability and the urban form qualities needed to achieve them, see Figure 10 in Conceptual Framework. However, after the analysis and a closer inspection to the context, problems, and needs, the findings revealed that the urban design and planning of the new urban communities are quite problematic and might be the root cause for the absence of social sustainability in the neighborhood.

The isolated residential super-blocks, the massive scale of the abundant but empty green open spaces, the unmixed land use, the car-dependency and lack of pedestrian-friendly street networks and the lack of designed social spaces that serve the whole community result in an uncomfortable built environment which negatively affects the social structure of the neighborhood. These prevailing neighborhood features along with the current centralized urban governance that ceases bottom-up social actions are considered the main reasons for abating community sustainability. Additionally, the planning of the built environment does not allow for accessibility to take place since many basic services and essentialities were found to be missing or distant from the area; again, which is another reason for discouraging community sustainability.

The results of the study confirm previous findings in the literature regarding the negative associations between the urban form features and social sustainability. However, one cannot assert that by reversing these features positive impacts on social sustainability would be directly attained; since the case study analysis revealed only the negative side of the urban form. Other issues in our context and urban system may lead to results that are inconsistent with the western literature. For example, the emerging formerly-mentioned phenomenon of social stratification might affect how people would perceive the public spaces and amenities even if they were adequately designed. Also, the existing density of the neighborhood is found satisfying to many residents which means that more compaction, as suggested by the literature, may not be contributing to social sustainability.

Consequently, the modified framework stresses more on the pressing needs and existing contextual deficiencies of the new Egyptian cities. The urban form qualities are seen as the first principle and the basic foundation which should be given the highest priority to reach social sustainability in the Egyptian new cities. Through adequate design and planning, the urban form would allow for the equity of access which is the second principle to take place. Finally, community sustainability is thought-about as the top objective, and at the same time the final result of applying the other two principles. The modified framework is visually illustrated in Figure 43.

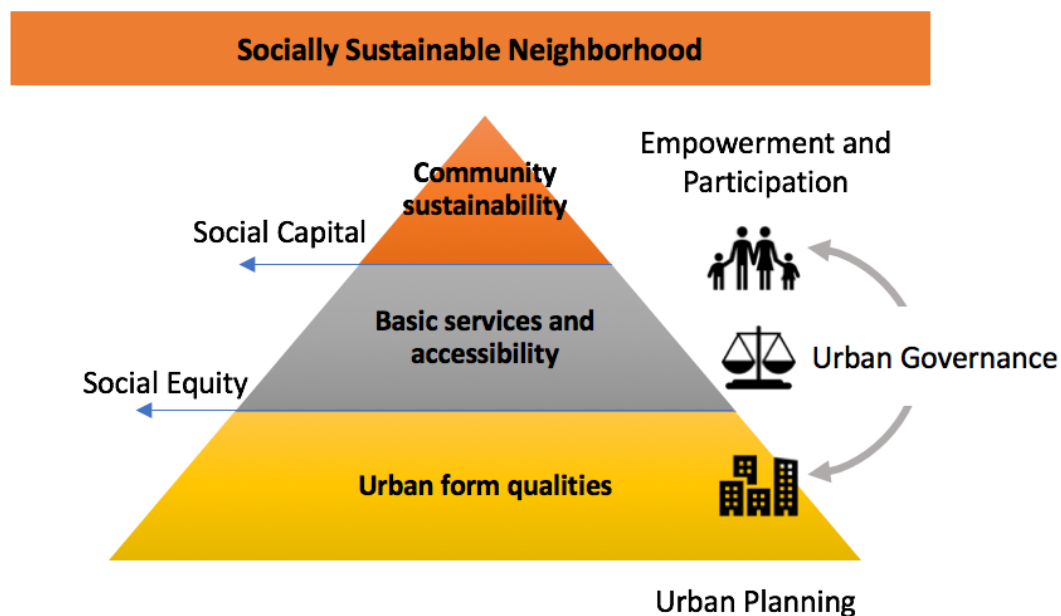


Figure 43 Modified conceptual framework reflecting priorities. By author

5.4 Recommendations

5.4.1 Case Study - Urban Form Recommendations

Since our work has led us to conclude that the urban planning of the selected case study is a major reason for its unsustainable community and absence of the residents' needs, adjustments to the neighborhood design are proposed as a retrofitting solution. As per our findings and discussion, the master plan needs to function as an original super-block which improves pedestrian accessibility instead of limiting it. Resonating the neighborhood theories found in the literature, we propose the following design recommendations¹⁶:

- Adding a pedestrian center to the neighborhood so that all dwellings will be inside the ped-shed¹⁷ or the walkable catchment area.
- Creating a connected pedestrian network where sidewalks should be redesigned and continued with the center. The network should be interesting enough and accommodates suitable outdoor furniture to encourage different pedestrian activities. It must be integrating all open spaces in the neighborhood.
- The center should be designed in a more compact mixed-use pattern with commercial uses at the ground serving the essential daily needs of the residents. It may include amenities such as a nursery, a grocery, a bakery, a hair-dresser, a stationary, a café or restaurant, a small clinic with a pharmacy inside, a library and any other needed service. It may also include some work-live units for people who have light industries, offices, or small businesses to run.
- Compactness should be implemented after rigorous and detailed planning regarding the urban intensification strategy that would fit the area if needed.
- The design of the neighborhood center should be a collaborative process where people can participate in it and reflect their own social and cultural identities. It should also entail various place making approaches that would result in a more lively and sustainable community.
- An affordable transportation system should be implemented where transport stations should be within the ten minutes ped-shed.

¹⁶ These recommendations do not follow a certain urban theory; they reflect different ideas from the literature and express how these ideas could have been applied in the neighborhood planning and design.

¹⁷ A ped-shed or a pedestrian shed (also called the walkable catchment) is the area mapped within Five minutes (distance is quarter mile or 400 m) to ten minutes walking to a neighborhood destination ("PedShed analysis," n.d.).

Hypothetically, this way the neighborhood would be vastly contributing to all social sustainability dimensions discussed earlier, see Figure 44, and accordingly, people will participate in creating the place that they will be proud of and attached to it later. Needed services will result in improved accessibility and hence social equity. People will meet frequently, and social interaction will take place with many eyes on the streets that will enhance safety, this will make the residents more stable in the neighborhood. Yet, other important issues should be well considered such as connection to other neighborhoods and to the surrounding city fabric. Due to scale limitations of our research, such issues are outside the scope of the case study and need further research.

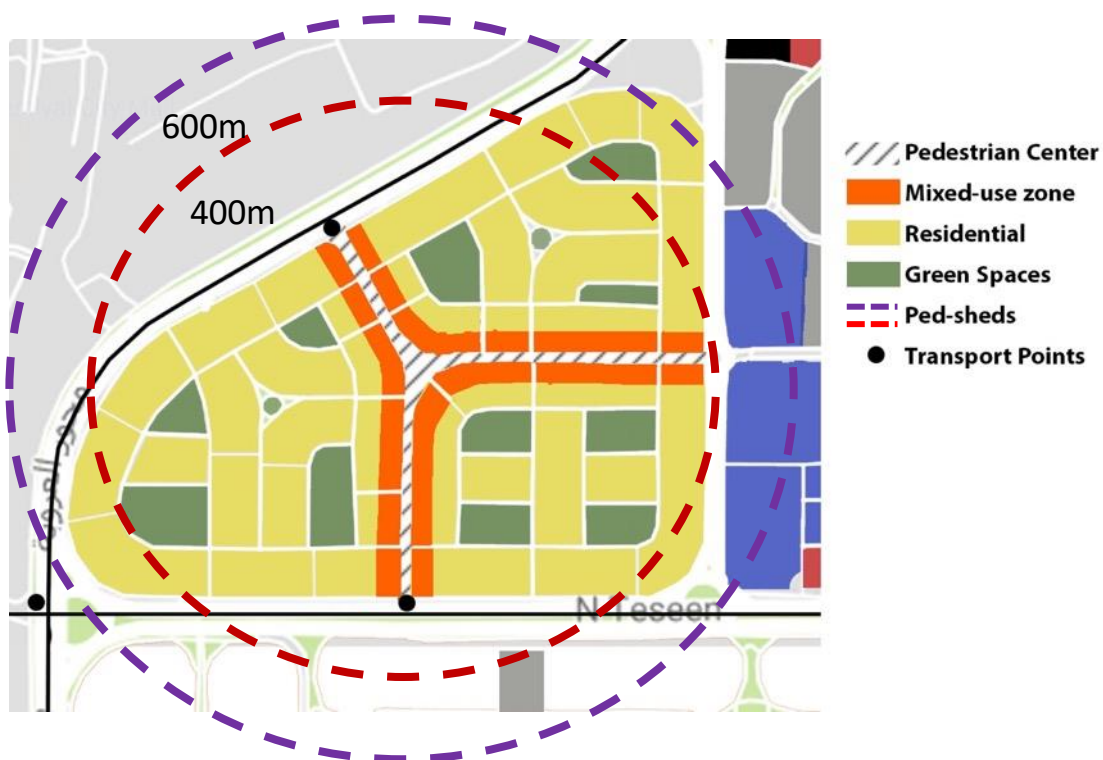


Figure 44 Neighborhood design recommendations. By author

5.4.2 Urban Policy Recommendations

Social sustainability is an important concept that should be given thorough consideration and priority in the Egyptian urban policy-making and planning. It should be well integrated with environmental and economic sustainability. This would enable Egypt to follow its Sustainable Development Agenda and comply with the global SDGs. This way, Egypt would avoid the increase of threatening social problems and can improve the quality of life of its present and future communities and hence contribute to its overall sustainable development.

Immediate urban policy reforms are needed to include social sustainability with its different dimensions as one of the main goals of the country's urban development plans. Besides, reforms for more integrated approaches are indispensable to realize synergy between the different urban sectors such as transportation, housing, and land use planning, which eventually would allow for achieving urban sustainability.

The neighborhood scale is proven to be quite significant for attaining urban social sustainability and strengthening the social capital of the country. It is where the positive change can occur to people, at the same time, it contributes to resilience and sustainability of the bigger system. Urbanists and policymakers should study and understand the dynamics of all neighborhoods in a city and not only the disadvantaged or poorer ones. More grounded theory research is needed towards the notion of sustainable neighborhood to reflect on the current problems and issues in the Egyptian context. Western literature should still be used to assist in research and lessons learned from the different case studies could help build the knowledge that suits Egypt's urban conditions and limitations.

Neighborhood development should be guided by social sustainability criteria that promote social equity through providing access to services and opportunities. It should guarantee that people have access to essential local services such as health, education, adequate public transportation, job opportunities and decent affordable housing. In addition, setting a clear vision of community sustainability should direct the urban development to achieve pride and attachment to the neighborhood, social interaction, safety, participation, and stability to the neighborhood inhabitants. By achieving socially sustainable neighborhoods, the communities will be able to take care of the other sustainability principles, the environment and the economy.

Effective urban governance is a main key for achieving a socially sustainable neighborhood. There is a need for implementing a decentralized urban system that would allow for strong local governance to take place. For instance, this can be achieved by creating an independent

municipal authority that would be in charge of sustainable urban planning, implementation, monitoring, and management. In addition, this authority could be responsible for efficient urban retrofitting¹⁸ that should be applied to neighborhoods. Vigorous research and comprehension of main deficiencies and problems would allow for sustainable urban retrofitting to take place. Priority should be given to the weakest points in the built environment and sustainability trade-offs should always be taken into considerations.

There is a pressuring need to restructure the urban management and administration systems that are governing the new cities such as New Cairo. The research found that all residents are not satisfied with existing urban management which needs to be changed. Investing in public-private partnerships might be a solution to provide better service delivery and support sustainable transportation, maintenance, and waste management systems.

Local governance should emphasize bottom-up approaches that would entail empowering community actions and participation. It should enable local stakeholders to improve their own neighborhoods and contribute to their own welfare. This would make them more attached and proud of their neighborhood, furthermore, it would build a stronger social capital. Local governance should also involve resource mobilization which means better use of existing resources to support projects and neighborhood activities in a way that is economically sustainable.

Urbanists and policy makers should be aware of the needs as well as the ideas created with in their own city through implementing a participatory urban design. Also, local stakeholders, universities or any other institutional bodies might be generating innovative ideas that can be implemented to improve the urban conditions of the neighborhoods or solve certain problems in an affordable manner. The conducted interviews showed that many residents have creative new ideas for improving their area and achieve social sustainability. For example, the neighborhood mobile application idea might be suitable to improve social interaction and participation in the current fast-paced and technology-dependent life mode. After all, fiscal shortages should not limit the development of our cities; only through innovation we can overcome our problems and realize sustainable urban development.

¹⁸ Urban retrofitting has acquired widespread in recent policy and research. It is adopted by many cities in the developed world through their transition to sustainable development. Sustainable retrofit refers to transformations of existing urban fabric, form, infrastructure or system to result in a more sustainable built environment (Dixon, Eames, Hunt, & Lannon, 2014).

We need to advocate for place-based and community-centered approaches in our urban planning. By following mentors such as Jane Jacobs and reinterpreting her ideas to suit our new contexts and present urban conditions, neighborhoods that are more socially and culturally sustainable could be achieved. Public spaces are key factors in building vibrant communities and since we have abundant public open spaces in our case study area, collaborative place-making approaches¹⁹ would be the solution for revitalizing those spaces. They should be creatively redesigned to serve the residents' needs; they can be used differently and flexibly; for example, as children playgrounds, or sports courts and they can accommodate different events such as social gatherings or art exhibitions, see Figure 45. Place-making would increase community sustainability by promoting the residents' collective participation, social interaction, pride and sense of belonging. Additionally, it will improve the safety and security since more eyes will be on the streets.



Figure 45 Place-making ideas: children playground, arts events and sports facilities.
Source: (Project for Public Spaces, n.d.)

¹⁹ For more information on place-making, refer to <https://www.pps.org>

5.5 Future Work

In general, the field of social sustainability is currently in an under-researched state, and the notion of achieving a socially sustainable neighborhood is not common in the Egyptian urban development discourse. There is a need for deeper investigations using both quantitative and qualitative methodologies which are necessary to reach a comprehensive understanding that can be generalized on the Egyptian context. In addition, more case studies should be analyzed and compared together to recognize both positive and negative impacts on social sustainability within the different circumstances of each location. In fact, further inspection is needed concerning certain urban form qualities such as density to understand their thresholds and impacts on social sustainability. Additionally, sustainable urban retrofitting is a vital issue for future research in Egypt since it is the current trend in the world now to overcome urban sprawl and transform the existing cities to be more sustainable. This research has also given rise to the issue of social stratification within the Egyptian society and its impact on perceiving the urban form qualities such as open spaces. Eventually, numerous related questions need further investigations to understand how different social classes in the society would perceive open spaces and react to them.

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Appendix A: Interview Guide

List of questions to be asked to residents of South Academy Area – Cluster A

- Define (Mark) your community / Neighborhood

حدد المنطقة التي تعتبرها مجتمعك أو مجاورتك السكنية



- **Community sustainability**

- a. **Social interaction/social networks in the community**

- i. How many neighbors do you know (by name) in your area? How many ones do you interact with? (greet or help with anything)
 - ii. How many times do you meet with your neighbors?
 - iii. How many friends or relatives in your neighborhood?

- **التفاعل الاجتماعي / الشبكة الاجتماعية**

- 1. ما هو عدد الجيران الذي تعرفهم؟ بالاسم او تتفاعل معهم بالسلام او المعايدات؟
 - 2. كم عدد المرات التي تقابل فيها جيرانك؟
 - 3. كم عدد اصدقائك / عائلتك في مجاورتك السكنية؟

- b. **participation in collective groups and networks in the community**

- i. Do you participate in any activities inside the neighborhood like sports, community gatherings, any groups including religious groups?
 - ii. What type of local activities, gatherings, celebrations...etc.?
 - iii. What is the frequency of local activities, gatherings, celebrations...etc.?
 - iv. How many participants?
 - v. What is the extent to which the residents pull together to improve the neighborhood?
 - vi. Do you feel that the residents can influence decisions that affect their neighborhood? To what extent?

- **المشاركة في مجموعات او نشاطات الشبكة الاجتماعية**

- 1. هل تشارك في اي نشاط بداخل المجاورة السكنية (رياضة، مقابلات، أنشطة دينية)؟
 - 2. ما هي انواع الانشطة المحلية التي تشارك بها (احتفالات، مناسبات...)?
 - 3. ما هو معدل حضورك لهذه الانشطة؟
 - 4. كم عدد المشاركين؟
 - 5. ما مدى تشجيع الافراد على العمل على تحسين المجاورة السكنية؟
 - 6. هل تعتقد أن الساكنين لهم تأثير على القرارات المؤثرة على مجاورتهم السكنية؟ ولأي مدى؟

- c. **Community stability**

- i. Are you willing to move or stay in the future? Why?

- **الثبات الاجتماعي**

- 1. هل ترغب في الانتقال لمكان اخر في المستقبل؟ لماذا؟

a. Pride/sense of place

- i. How do you see your neighborhood? Or How do you feel about it?
proud – dissatisfied – attached - etc.
- ii. Are you satisfied with its appearance?

• الانتماء للمكان

1. كيف ترى مجاورتك السكنية؟
2. كيف تشعر تجاهها؟ راض، غير راض، متعلق، فخور.....الخ
3. ما مدى رضائك عن الشكل العام للمجاورة؟

a. Safety and security

- i. How do you see the neighborhood from safety perspective generally?
Compared to rest of Egypt?
- ii. Do you let your children play outside? Ride their bicycles?
- iii. Do you feel safe walking or jogging around? Morning and after dark?
standing waiting for transport?
- iv. Do you feel safe / worried if your wife goes out alone?
- v. Did you experience any serious problems of crime?

• الامن والامان

1. كيف ترى مدى الامن في مجاورتك السكنية عامة مقارنة لباقي الاحياء السكنية في مصر؟
2. هل تترك اطفالك يلعبوا في الشارع؟ هل تسمح لهم بركوب العجل في الخارج؟
3. هل تشعر بالأمان للمشبي او الرياضة او انتظار المواصلات في الشارع في الصباح او المساء؟
4. ما هي مشاكلك الاجتماعية في منطقتك السكنية؟
5. هل تطمأن عندما تخرج زوجتك بمفردها؟
6. هل واجهت اي جريمة في منطقتك؟

• Social Equity

- a. How much do you pay for rent?
- b. Where do you work?
- c. Do you see job opportunities nearby?
- d. What are the perceived issues with respect to basic service provision, local facilities/amenities provision? How do you rate them?
- e. How hard is it to reach nearby services such as: shops, groceries, mosques, etc.?

• المساواة الاجتماعية

1. ماهي قيمة ايجار عقارك السكني؟
2. اين تعمل؟
3. هل يوجد فرص عمل قريبة من منطقتك السكنية؟
4. ما هو تقييمك لمستوى الخدمات العامة وهل تواجه مشاكل معها؟
5. هل تجد صعوبة في الوصول لمنطقة الخدمات الرئيسية (مثل سوق، محلات تجارية، مسجد، عياده، أخرى) في مجاورتك السكنية؟

• **Urban Form Qualities**

- a. How do you see the distances between the residential buildings?
- b. Do you feel any crowding in your neighborhood?
- c. Do you find available parking lots sufficient?
- d. How do you find walking or riding a bicycle (for doing your daily errands)?

• الشكل الحضري (البيئة العمرانية):

- (a) ما هو تقييمك للمسافات والردود الملزمة بين المباني السكنية؟
- (b) ما هو تقييمك لعدد أماكن انتظار السيارات المتوفرة في مجاورتك السكنية؟
- (c) كيف ترى مجاورتك السكنية من حيث الاشغال والازدحام؟
- (d) الى أي مدى تشعر بسهولة المشي او ركوب الدراجة في الشوارع حول منزلك لقضاء مشاويرك واحتياجاتك اليومية؟

• **General questions, notes and suggestions**

1. What are the problems found in the neighborhood?
2. What are the positives and negatives in your community?
3. Any suggestions or ideas to improve your neighborhood, or concerning a certain issue, etc.

• **أسئلة عامة ومقترحات**

1. ما هي مشاكلك الأساسية في مجاورتك السكنية؟
2. ما هي الإيجابيات او السلبيات التي توجد في مجتمعك السكني؟
3. ما هي مقترحاتك تجاه شأن معين أو لتحسين المجاورة السكنية؟

- **Photovoice Ideas**

- a. To help with this research, what photos you believe would help reflect a social issue within the neighborhood?

- **Socio-Demographics**

- a. Owner / Tenure
 - b. Gender
 - c. Number of Family members
 - d. Educational Level
 - e. Age Group
 - f. Presence in the area

- **معلومات اجتماعية**

- 1. مالك/ مؤجر
 - 2. عدد افراد الاسرة
 - 3. المستوى التعليمي
 - 4. السن
 - 5. عدد السنين او المدة

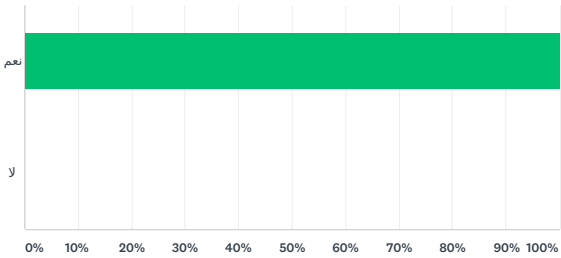
Appendix B: Interviewees Profile

Code	Initials	Date	Gender	Age Range	Educational Level	Number of Family members	Presence in the Area (in years)	Owner or Tenant
A1	AA	18/10/2017	Female	50-60	Bachelor's degree	5	7	owner
A2	OM	19/10/2017	Male	50-60	Master's degree	5	7	owner
A3	AO	22/10/2017	Male	20-30	Bachelor's degree	2	7	owner
A4	SM	22/10/2017	Female	20-30	Bachelor's degree	2	2.5	owner
A5	HM	30/10/2017	Female	50-60	Bachelor's degree	5	5	owner
A6	MY	30/10/2017	Female	30-40	Master's degree	4	8	owner
A7	MK	13/10/2017	Male	60-70	Bachelor's degree	4	10	owner
A8	NH	15/10/2017	Female	20-30	Bachelor's degree	4	3.5	owner
A9	AB	15/10/2017	Male	50-60	Bachelor's degree	4	9	owner
A10	NS	15/10/2017	Male	60-70	Ph.D.	5	9	owner
A11	ON	15/10/2017	Female	50-60	Ph.D.	5	9	owner
A12	RE	17/10/2017	Female	30-40	Bachelor's degree	6	2.5	owner
A13	AH	13/10/2017	Male	50-60	Bachelor's degree	4	6	owner
A14	MH	13/10/2017	Male	60-70	Bachelor's degree	4	13	owner
A15	YM	13/10/2017	Male	60-70	Ph.D.	5	7	owner
A16	AA	13/10/2017	Male	60-70	Ph.D.	4	5	owner

Appendix C: Online Questionnaire Results

هل توافق على الشروط المذكورة أعلاه؟ بالنقر على نعم، فإنك توافق على أنك على استعداد للرد Q1
على الأسئلة في هذا الاستطلاع

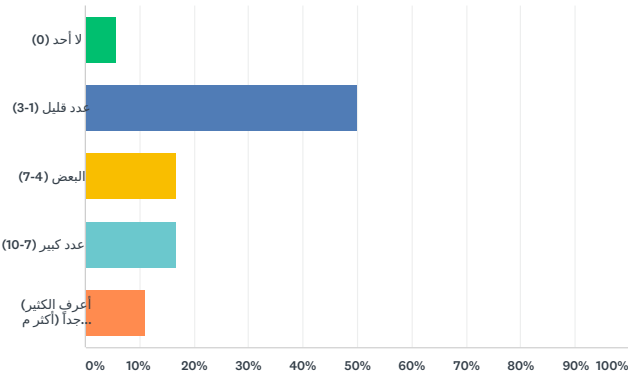
Answered: 20 Skipped: 0



ANSWER CHOICES	RESPONSES
نعم	100.00%20
لا	0.00%0
TOTAL	20

ما هو عدد الجيران الذي تعرفهم بالاسم او تتفاعل معهم بالسلام او المعايدات؟ Q2

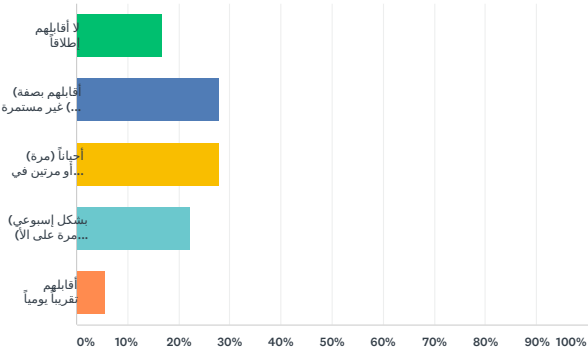
Answered: 18 Skipped: 2



ANSWER CHOICES	RESPONSES
لا أحد (0)	5.56%1
عدد قليل (1-3)	50.00%9
البعض (4-7)	16.67%3
عدد كبير (7-10)	16.67%3
أعرف الكثير جداً (أكثر من 10)	11.11%2
TOTAL	18

كم عدد المرات التي تقابل فيها أي من جيرانك؟ Q3

Answered: 18 Skipped: 2



ANSWER CHOICES	RESPONSES
لا أقابلهم إطلاقاً	16.67%3
أقابلهم بصفة غير مستمرة (عدد معين من المرات سنوياً)	27.78%5
أحياناً (مرة أو مرتين في الشهر)	27.78%5
بشكل إسبوعي (مرة على الأقل في الاسبوع)	22.22%4
أقابلهم تقريباً يومياً	5.56%1
TOTAL	18

كم عدد الأشخاص الذي تعتبرهم أصدقائك في مجاورتك (أذكر العدد) Q4

Answered: 18 Skipped: 2

#	RESPONSES	DATE
1	0	10/17/2017 8:43 PM
2	3	10/17/2017 6:11 PM
3	0	10/17/2017 10:15 AM
4	4	10/17/2017 12:29 AM
5	2	10/16/2017 6:29 PM
6	2	10/16/2017 8:08 AM
7	2	10/15/2017 11:37 PM
8	3	10/15/2017 10:40 PM
9	4	10/15/2017 9:57 PM
10	0	10/15/2017 9:46 PM
11	2	10/15/2017 9:27 PM
12	0	10/15/2017 9:07 PM
13	0	10/15/2017 9:03 PM
14	5	10/15/2017 6:01 PM
15	0	10/15/2017 5:07 PM
16	10	10/15/2017 11:14 AM
17	4	10/15/2017 8:38 AM
18	3	10/15/2017 4:35 AM

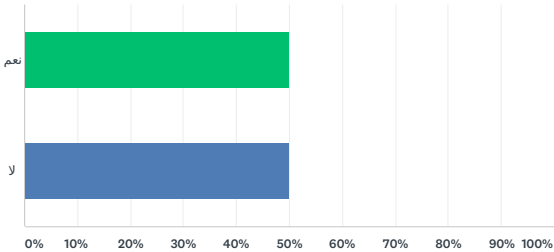
كم عدد الأشخاص الذين ضمن عائلتك في مجاورتك (أذكر العدد) Q5

Answered: 18 Skipped: 2

#	RESPONSES	DATE
1	3	10/17/2017 8:43 PM
2	0	10/17/2017 6:11 PM
3	2	10/17/2017 10:15 AM
4	3	10/17/2017 12:29 AM
5	7	10/16/2017 6:29 PM
6	2	10/16/2017 8:08 AM
7	0	10/15/2017 11:37 PM
8	2	10/15/2017 10:40 PM
9	7	10/15/2017 9:57 PM
10	0	10/15/2017 9:46 PM
11	0	10/15/2017 9:27 PM
12	0	10/15/2017 9:07 PM
13	0	10/15/2017 9:03 PM
14	4	10/15/2017 6:01 PM
15	5	10/15/2017 5:07 PM
16	9	10/15/2017 11:14 AM
17	10	10/15/2017 8:38 AM
18	5	10/15/2017 4:35 AM

هل تشارك في اي نشاط بداخل المجاورة السكنية مع جيرانك (رياضة، مقابلات، أنشطة دينية) ؟ Q6

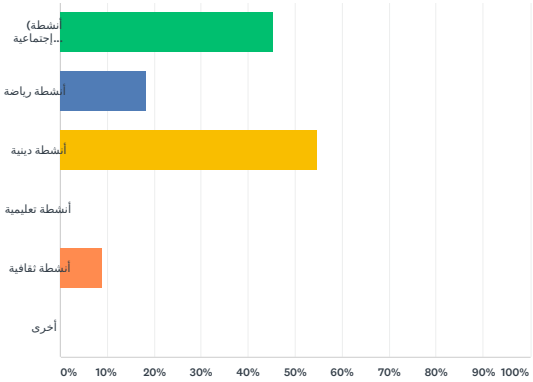
Answered: 18 Skipped: 2



ANSWER CHOICES	RESPONSES
نعم	50.00% 9
لا	50.00% 9
TOTAL	18

إذا كان الجواب في سؤال رقم 5 نعم، ما نوع هذا النشاط (يمكن إختيار أكثر من إجابة) Q7

Answered: 11 Skipped: 9

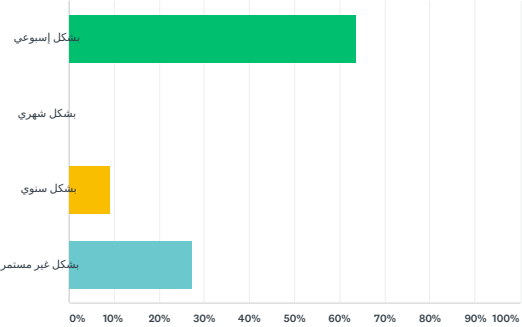


ANSWER CHOICES	RESPONSES
نشاط اجتماعي (زيارات عائلية/ معيدات / مناسبات/ إلخ)	45.45% 5
أنشطة رياضية	18.18% 2
أنشطة دينية	54.55% 6
أنشطة تعليمية	0.00% 0
أنشطة ثقافية	9.09% 1
أخرى	0.00% 0
Total Respondents: 11	

#	أخرى	DATE
There are no responses.		

إذا كان الجواب في سؤال رقم 5 نعم، ما معدل حضورك لهذه الأنشطة Q8

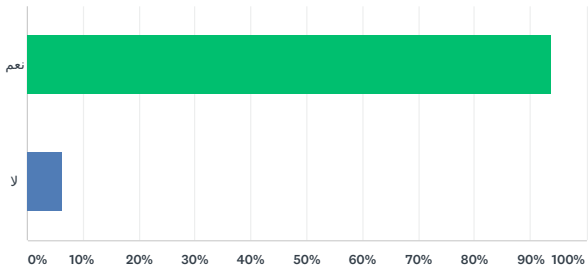
Answered: 11 Skipped: 9



ANSWER CHOICES	RESPONSES
بشكل إسبوعي	63.64% 7
بشكل شهري	0.00% 0
بشكل سنوي	9.09% 1
بشكل غير مستمر	27.27% 3
TOTAL	11

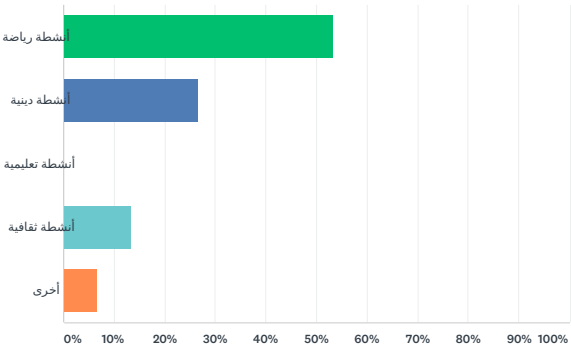
إذا كان الجواب في سؤال رقم 5 لا، هل ترغب في أن يكون لك نشاطات داخل مجاورتك؟ Q9

Answered: 16 Skipped: 4



يرجي اختيار أنواع هذه النشاطات إذا كانت إجابتك نعم في سؤال رقم 8 Q10

Answered: 15 Skipped: 5

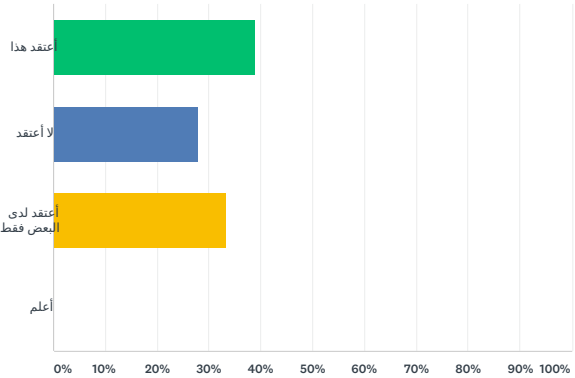


ANSWER CHOICES		RESPONSES
نشطة رياضية		53.33% 8
نشطة دينية		26.67% 4
أنشطة تعليمية		0.00% 0
أنشطة ترفيهية		13.33% 2
أخرى		6.67% 1
TOTAL		15

#	أخرى	DATE
1	اجتماعية	10/15/2017 11:19 AM

في رأيك، هل تعتقد أن لدى أفراد مجاورتك التشجيع على العمل على تحسين المجاورة السكنية Q11 بأي شكل من الأشكال؟

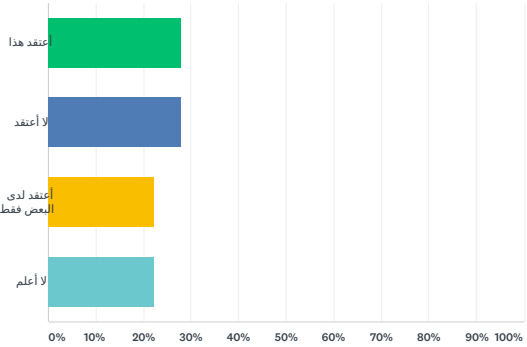
Answered: 18 Skipped: 2



ANSWER CHOICES	RESPONSES
أعتقد هذا	38.89% 7
لا أعتقد	27.78% 5
أعتقد لدى البعض فقط	33.33% 6
أعلم	0.00% 0
TOTAL	18

في رأيك، هل تعتقد أن الساكنين لهم تأثير على القرارات المؤثرة على مجاورتهم السكنية؟ Q12

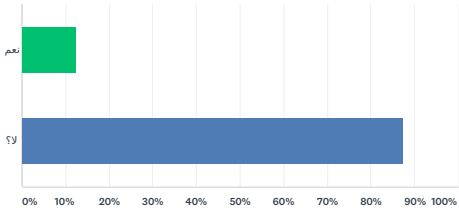
Answered: 18 Skipped: 2



ANSWER CHOICES	RESPONSES
أعتقد هذا	27.78% 5
لا أعتقد	27.78% 5
أعتقد لدى البعض فقط	22.22% 4
لا أعلم	22.22% 4
TOTAL	18

هل ترغب في الانتقال لمكان اخر في المستقبل؟ لماذا؟ Q13

Answered: 16 Skipped: 4

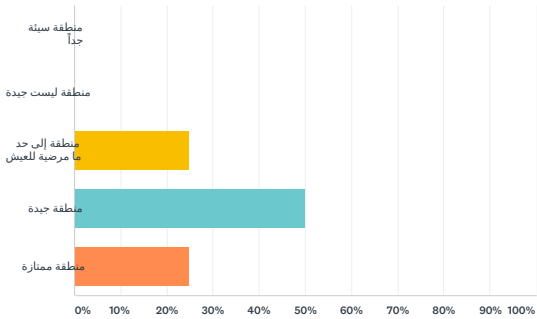


ANSWER CHOICES	RESPONSES
نعم	12.50%2
لا	87.50%14
TOTAL	16

#	لا	DATE
1	لان انا راضي عن المكان الذي اسكن فيه	10/17/2017 8:49 PM
2	للتعود على المكان ولحسن الجيرة	10/17/2017 6:16 PM
3	المنطقة لحد كبير مريحة وتتم بالهدوء	10/17/2017 10:20 AM
4	منطقة امنة وهدأة	10/17/2017 12:32 AM
5	مريحة	10/16/2017 7:19 PM
6	لاي مسنقر	10/15/2017 11:47 PM
7	احب المكان	10/15/2017 10:42 PM
8	ارتاح في المكان	10/15/2017 9:49 PM
9	لاي مرئحة الي حد ما في هذا المكان	10/15/2017 9:30 PM
10	السكن في جنوب الاكاديميو فيه هدوء وسكن ونظافة	10/15/2017 9:11 PM
11	المكان جيد	10/15/2017 9:05 PM
12	لايه بيت المئلة	10/15/2017 5:08 PM
13	لان اي مكان آخر ان يفرق عن هذا المكان	10/15/2017 11:28 AM
14	مكان راقي وهادي	10/15/2017 8:41 AM

كيف ترى مجاورتك السكنية؟ Q14

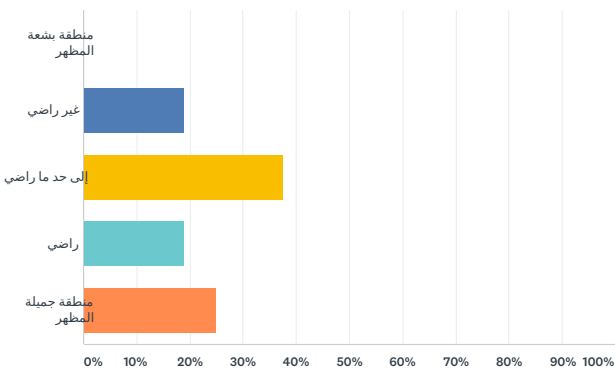
Answered: 16 Skipped: 4



ANSWER CHOICES	RESPONSES
منطقة سيئة جداً	0.00%0
منطقة ليست جيدة	0.00%0
منطقة إلى حد ما مرضية للعيش	25.00%4
منطقة جيدة	50.00%8
منطقة ممتازة	25.00%4
TOTAL	16

ما مدى رضائك عن مظهر مجاورتك السكنية من حيث الشكل العام؟ Q15

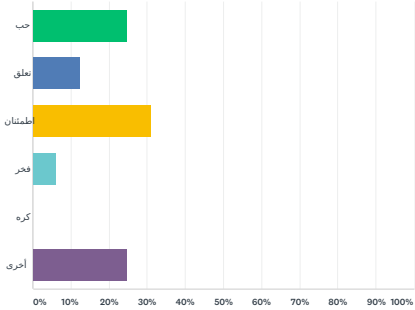
Answered: 16 Skipped: 4



ANSWER CHOICES	RESPONSES
منطقة بشعة المظيهر	0.00%0
غير راضي	18.75%3
إلى حد ما راضي	37.50%6
راضي	18.75%3
منطقة جميلة المظيهر	25.00%4
TOTAL	16

كيف تشعر تجاهها؟ Q16

Answered: 16 Skipped: 4

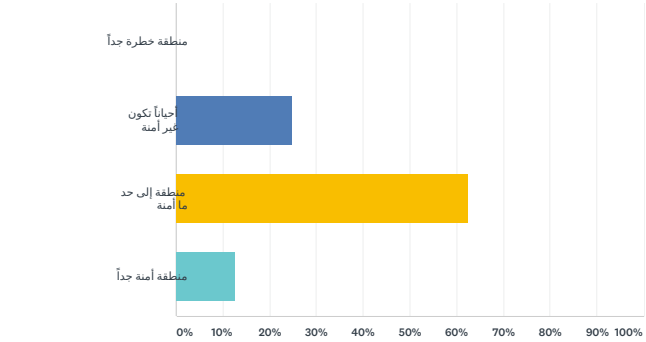


ANSWER CHOICES	RESPONSES
حب	25.00%4
تعلق	12.50%2
اطمئنان	31.25%5
فخر	6.25%1
كره	0.00%0
أخرى	25.00%4
TOTAL	16

#	أخرى	DATE
1	الهدوء السلمي وكذلك جودة والتنظيم بعض الخدمات مرضي	10/17/2017 10:20 AM
2	الراحة	10/16/2017 7:19 PM
3	الاشياء من الاعمال	10/15/2017 11:47 PM
4	اتجر انها منطقة سيئة الشط	10/15/2017 4:51 AM

كيف ترى مدى الامن في مجاورتك السكنية عامة مقارنة لباقي الاحياء السكنية في مصر؟ Q17

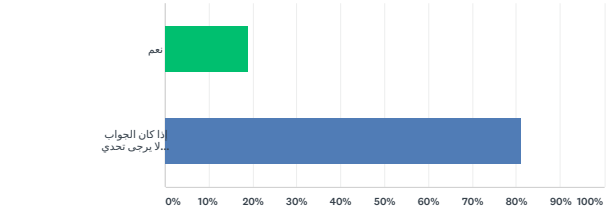
Answered: 16 Skipped: 4



ANSWER CHOICES	RESPONSES
منطقة خطيرة جداً	0.00%
أحياناً تكون غير آمنة	25.00%
منطقة إلى حد ما آمنة	62.50%
منطقة آمنة جداً	12.50%
TOTAL	16

هل تترك اطفالك يلعبوا في الشارع؟ هل تسمح لهم بركوب العجل في الخارج؟ Q18

Answered: 16 Skipped: 4

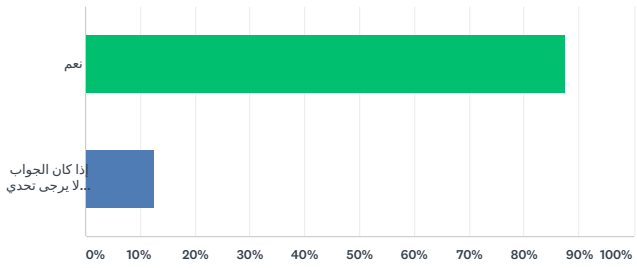


ANSWER CHOICES	RESPONSES
نعم	18.75%
إذا كان الجواب لا يرجى تحديد السبب	81.25%
TOTAL	16

#	إذا كان الجواب لا يرجى تحديد السبب	DATE
1	أصغر منهم	10/17/2017 8:50 PM
2	لا أمانع في ان يلعبوا في الشارع لكن ولدي كبار علي سن اللعب بالشارع	10/17/2017 10:23 AM
3	لا أطمئن لمرور السيارات	10/17/2017 12:33 AM
4	سرعة السيارات وجود البوابين	10/16/2017 7:21 PM
5	أخلاق غير سويه و عدم الاطمئنان	10/16/2017 8:15 AM
6	تواجد البوابين و العمال ة	10/15/2017 11:52 PM
7	لوجود كلاب ضالة كثيرة	10/15/2017 9:52 PM
8	ولادي كبار	10/15/2017 9:12 PM
9	سيارات	10/15/2017 9:06 PM
10	لا يوجد ما يمنع ان السيارات تسير بسرعة	10/15/2017 5:09 PM
11	ولادي كبار	10/15/2017 11:30 AM
12	لنهمهم للنشطه في النادي	10/15/2017 8:43 AM
13	وجود غرياء كلاب ضالة و سيارات مسرعة	10/15/2017 4:54 AM

هل تشعر بالأمان للمشئي او الرياضة او انتظار المواصلات في الشارع في الصباح او المساء؟ Q19

Answered: 16 Skipped: 4

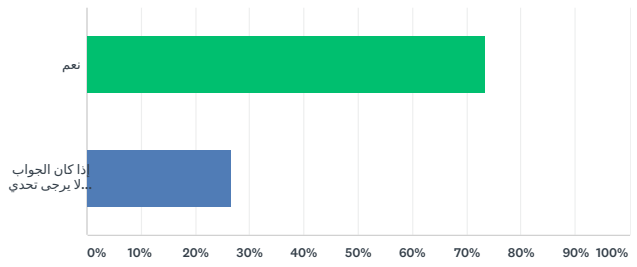


ANSWER CHOICES	RESPONSES
نعم	87.50%
إذا كان الجواب لا يرجى تحديد السبب	12.50%
TOTAL	16

#	إذا كان الجواب لا يرجى تحديد السبب	DATE
1	بسبب الكلاب	10/15/2017 9:52 PM
2	كلاب ضالة بكثرة و وجود غرياء و قلة الاضاءة	10/15/2017 4:54 AM

هل تطمان عندما تخرج زوجتك بمفردها في مجاورتك؟ Q20

Answered: 15 Skipped: 5

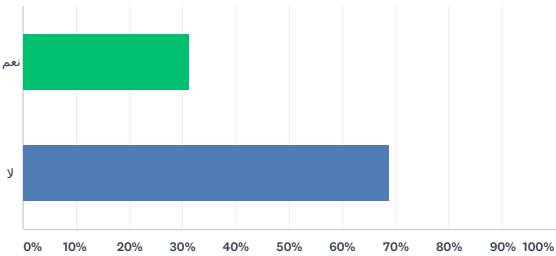


ANSWER CHOICES	RESPONSES
نعم	73.33%
إذا كان الجواب لا يرجى تحديد السبب	26.67%
TOTAL	15

#	إذا كان الجواب لا يرجى تحديد السبب	DATE
1	لا لوجود البوابين و العمال	10/17/2017 12:33 AM
2	بوابين	10/16/2017 7:21 PM
3	بسبب الكلاب	10/15/2017 9:52 PM
4	كلاب ضالة ، غرياء ، عدم وجود امن، قلة انارة	10/15/2017 4:54 AM

هل واجهت اي جريمة في منطقتك؟ Q21

Answered: 16 Skipped: 4

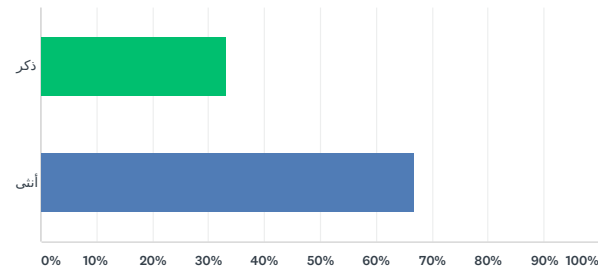


ANSWER CHOICES	RESPONSES
نعم	31.25% 5
لا	68.75% 11
TOTAL	16

#	إذا كان الجواب نعم، يرجى تحديد نوع الجريمة	DATE
1	سرقة كلاب وسرقة عربيات	10/17/2017 8:50 PM
2	خناقة بوابين	10/16/2017 7:21 PM
3	سرقات سيارات و شقق	10/16/2017 8:15 AM
4	سرقة سياراتى	10/15/2017 9:52 PM
5	محاولة سرقة كلابي	10/15/2017 5:09 PM

النوع Q22

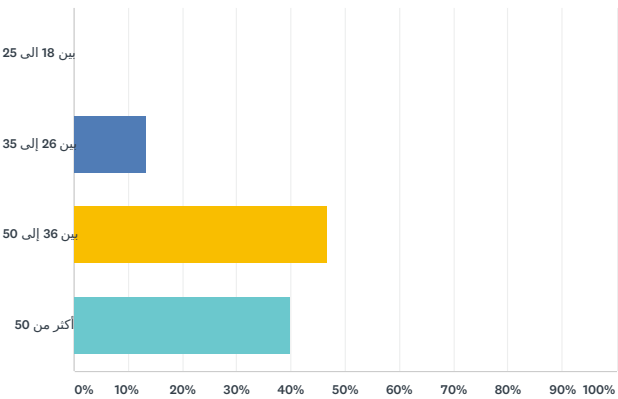
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
ذكر	33.33% 5
أنثى	66.67% 10
TOTAL	15

السن Q23

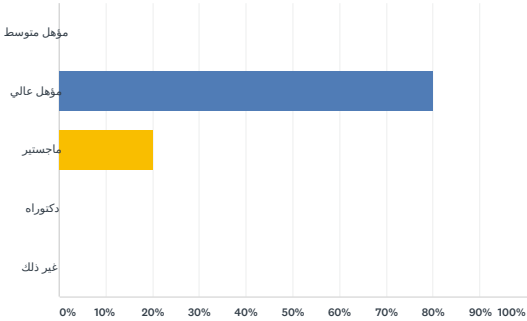
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
بين 18 الى 25	0.00% 0
بين 26 إلى 35	13.33% 2
بين 36 إلى 50	46.67% 7
أكثر من 50	40.00% 6
TOTAL	15

المستوى التعليمي Q24

Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
مؤهل متوسط	0.00% 0
مؤهل عالي	80.00% 12
ماجستير	20.00% 3
دكتوراه	0.00% 0
غير ذلك	0.00% 0
TOTAL	15

#	غير ذلك	DATE
	There are no responses.	

Q25 ما هو عدد أفراد أسرتك التي تعيش معها؟

Answered: 15 Skipped: 5

#	RESPONSES	DATE
1	4	10/17/2017 8:55 PM
2	5	10/17/2017 6:20 PM
3	2	10/17/2017 10:26 AM
4	3	10/17/2017 12:36 AM
5	2	10/16/2017 7:22 PM
6	2	10/16/2017 8:18 AM
7	4	10/15/2017 11:59 PM
8	3	10/15/2017 9:57 PM
9	6	10/15/2017 9:34 PM
10	6	10/15/2017 9:14 PM
11	4	10/15/2017 9:07 PM
12	4	10/15/2017 5:10 PM
13	9	10/15/2017 11:33 AM
14	5	10/15/2017 8:45 AM
15	4	10/15/2017 4:57 AM

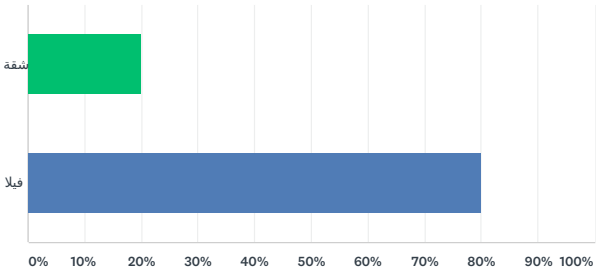
Q26 أذكر عدد السنين التي قضيتها في مجاورتك التي تسكن بها حالياً

Answered: 15 Skipped: 5

#	RESPONSES	DATE
1	5	10/17/2017 8:55 PM
2	8	10/17/2017 6:20 PM
3	3	10/17/2017 10:26 AM
4	1	10/17/2017 12:36 AM
5	5	10/16/2017 7:22 PM
6	8	10/16/2017 8:18 AM
7	7	10/15/2017 11:59 PM
8	4	10/15/2017 9:57 PM
9	7	10/15/2017 9:34 PM
10	7	10/15/2017 9:14 PM
11	2	10/15/2017 9:07 PM
12	2	10/15/2017 5:10 PM
13	8	10/15/2017 11:33 AM
14	5	10/15/2017 8:45 AM
15	2	10/15/2017 4:57 AM

Q27 ما نوع العقار الذي تعيش فيه؟

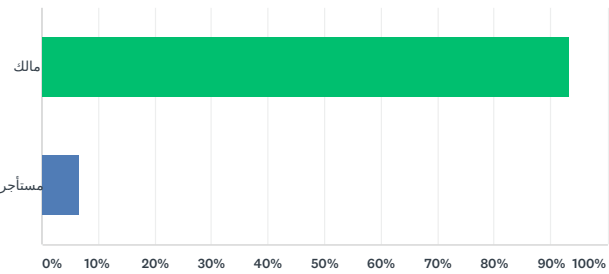
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
شقة	20.00%
فيلا	80.00%
TOTAL	15

Q28 هل أنت مالك أم مستأجر؟

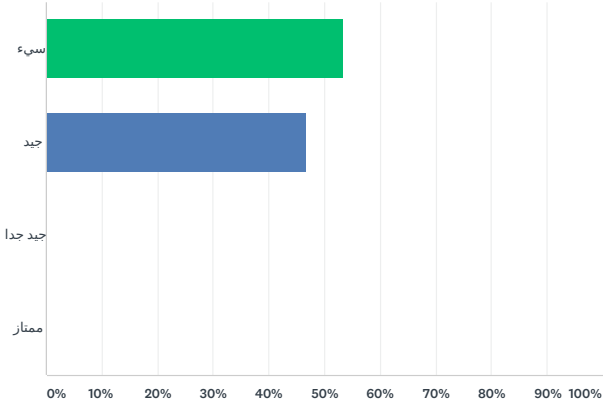
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
مالك	93.33%
مستأجر	6.67%
TOTAL	15

ما هو تقييمك لمستوى الخدمات العامة والمرافق المحلية - وهل تواجه مشاكل معها؟ Q32

Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
سيء	8
جيد	7
جيد جدا	0
ممتاز	0
TOTAL	15

#	ان كنت تواجه مشكله مع الخدمات العامة في مجاورتك السكنية ما هي؟	DATE
1	سوبر ماركت	10/17/2017 8:55 PM
2	اعددة للور	10/17/2017 6:20 PM
3	الطرق والقمامة	10/17/2017 12:36 AM
4	بنينه تحتية سيئه	10/16/2017 8:18 AM
5	الاهمال	10/15/2017 11:59 PM
6	لايوجد اى خدمات تسويقية	10/15/2017 9:57 PM
7	عدم وجود نت اغلب الوقت وعدم الاعتناء بالاماكن العامة والزرع	10/15/2017 9:34 PM
8	لا	10/15/2017 9:14 PM
9	لا يوجد سوبر ماركت	10/15/2017 9:07 PM
10	لا توجد خدمات اصلا	10/15/2017 5:10 PM
11	ارجو زراعه الجنائين	10/15/2017 8:45 AM
12	صرف صحي سيء ، مشاكل مياه ، عدم وجود امن ، اضاءة	10/15/2017 4:57 AM

إذا كنت مستأجر ، ما هي نسبة ايجار عقارك بالمقارنة لدخلك الشهري؟ Q29

Answered: 2 Skipped: 18

#	RESPONSES	DATE
1	مرتفعة	10/15/2017 9:57 PM
2	غير مطبق	10/15/2017 4:57 AM

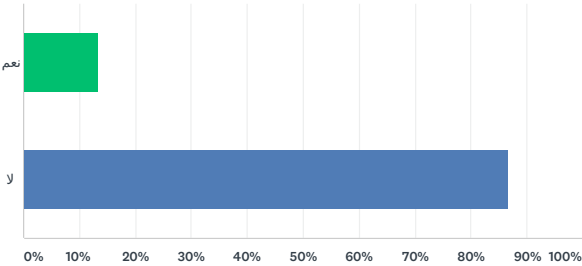
أين تعمل ؟ (يرجى ذكر مكان عملك) Q30

Answered: 10 Skipped: 10

#	RESPONSES	DATE
1	حاليا لا اعمل	10/17/2017 8:55 PM
2	شركة توب تك	10/17/2017 10:26 AM
3	السويدي اليكترويك	10/17/2017 12:36 AM
4	مدرسه خاصه	10/16/2017 8:18 AM
5	ربة منزل زوجى استاذ جامعة	10/15/2017 9:57 PM
6	لا اعمل	10/15/2017 9:34 PM
7	CISE	10/15/2017 9:07 PM
8	المعاش	10/15/2017 11:33 AM
9	ربه منزل	10/15/2017 8:45 AM
10	القاهرة الجديدة	10/15/2017 4:57 AM

هل تعلم بوجود فرص عمل في مجاورتك؟ Q31

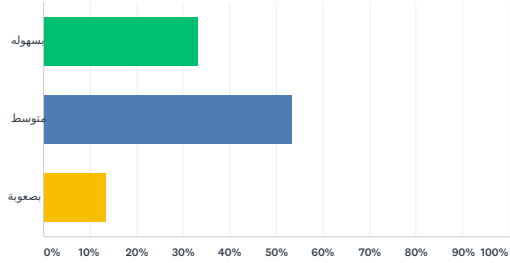
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
نعم	13.33%
لا	86.67%
TOTAL	15

ما هي قدرتك على الوصول لمنطقة الخدمات الرئيسية (مثل سوق، محلات تجارية، مسجد، Q33 عياده، أخرى) في مجاورتك السكنية؟

Answered: 15 Skipped: 5

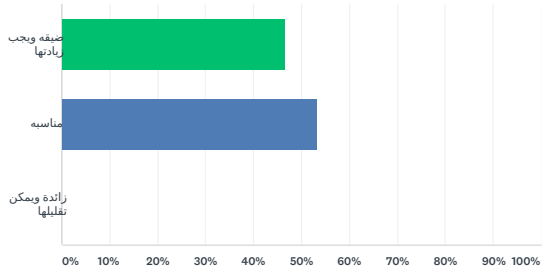


ANSWER CHOICES	RESPONSES
سهوله	33.33%
متوسط	53.33%
بصعوبة	13.33%
TOTAL	15

#	ان كنت تواجه صعوبة – ما هي الصعوبات التي تواجهك؟	DATE
1	لا يوجد منطقة خدمات في جنوب الاكاديمية الا في المول	10/17/2017 8:55 PM
2	ضروري الانتقال بالعربة لبعد الاسواق مشيا	10/15/2017 11:59 PM
3	بعد عن المكان	10/15/2017 9:57 PM
4	بعد المسافة	10/15/2017 5:10 PM
5	لا توجد خدمات عامة كقتال - مغسلة - اجرة خاثة	10/15/2017 11:33 AM
6	صعوبة التوصل للخدمات مشي	10/15/2017 4:57 AM

ما هو تقييمك للمسافات والردود الملزمة بين المباني السكنية؟ Q34

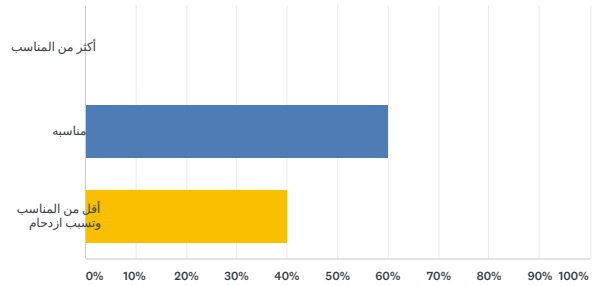
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
صعيفه ويجب زيادتها	46.67%
متناسبه	53.33%
زائدة ويمكن تقليلها	0.00%
TOTAL	15

ما هو تقييمك لعدد أماكن انتظار السيارات المتوفرة في مجاورتك السكنية؟ Q35

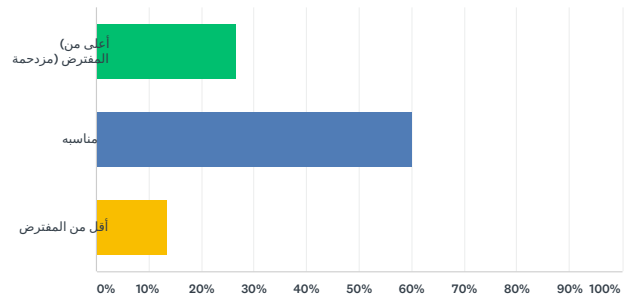
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
أكثر من المناسب	0.00%
متناسبه	60.00%
أقل من المناسب وتسيب ازدياد	40.00%
TOTAL	15

كيف ترى مجاورتك السكنية من حيث الاشغال والازدحام؟ Q36

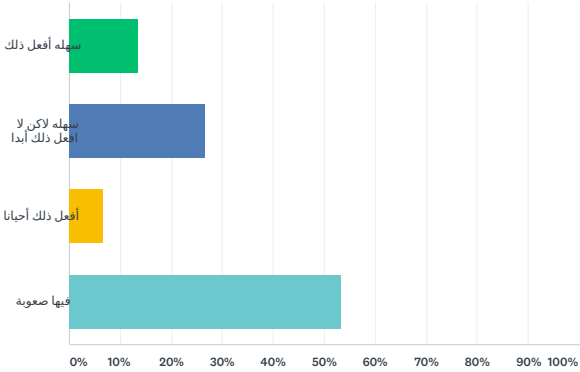
Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
أعلى من المقترض (مزدهمة)	26.67%
متناسبه	60.00%
أقل من المقترض	13.33%
TOTAL	15

الى أي مدى تشعر بسهولة المشي او ركوب الدراجة في الشوارع حول منزلك لقضاء Q37 مشاويرك واحتياجاتك اليومية؟

Answered: 15 Skipped: 5



ANSWER CHOICES	RESPONSES
سهله اقل ذلك	13.33%
سهله لكن لا اقل ذلك أبدا	26.67%
أقل ذلك أحيانا	6.67%
فيها صعوبة	53.33%
TOTAL	15

#	DATE	ان كنت تواجه صعوبة – ما هي الصعوبات التي تواجهك؟
1	10/17/2017 10:28 AM	لكثرة الطرق الغير ممهدة ولعدم احترام سكان المنطقة بأداب وتعاليم المرور وكثرة السيارات التي تمشي في الاتجاه العكسي
2	10/16/2017 8:19 AM	شوارع غير مرصوفه
3	10/16/2017 12:59 AM	بعد الاسواق و المواصلات العامة
4	10/15/2017 9:36 PM	لصعوبة في امان اماكن الخدمات بعيدة نسبيا والشوارع بها مرتفعات ومنخفضات
5	10/15/2017 5:12 PM	العربات تسير بسرعة في الشوارع الداخليه
6	10/15/2017 8:46 AM	عدم رصف الطرق
7	10/15/2017 5:01 AM	كلاب ضالة، عدم وجود اماكن خدمات قريبة ، لا يوجد مشي

ما هي مشكلاتك الاساسية في مجاورتك السكنية؟ Q38

Answered: 12 Skipped: 8

#	RESPONSES	DATE
1	الاهتمام بالحدائق المجاورة و انشاء صور بكل حديقة للمحافظة و الاهتمام بها	10/17/2017 9:00 PM
2	بعد السوق والمخابز	10/17/2017 6:25 PM
3	ثقافة عدم وجد رصيف يحترم للناس بالقيام بالمشي وكذلك كثرة السيارات التي تسير عكس الاتجاه	10/17/2017 10:38 AM
4	البوابين والطرق	10/17/2017 12:39 AM
5	البوابين و عيالهم	10/16/2017 7:23 PM
6	الاهمال في المرافق -عدم النظفة-عدم توفر المواصلات العامة -امكان مخصصة لعبور المشاة	10/16/2017 1:03 AM
7	الخدمات والكلاب الضالة وزراعة الاماكن المخصصة للزرع	10/15/2017 10:01 PM
8	بعد المواصلات العامة حتي التاكسي	10/15/2017 9:42 PM
9	وجود ملاك الى الان لم يتموا التشطيب فيسيروا ازعاج شديد تثناء التشطيب العمل ازعج	10/15/2017 9:21 PM
10	التعارف بين الجيران - عدم وجود خدمات أساسية في منطقة أ مثال المناطق الأخرى	10/15/2017 11:38 AM
11	عدم رصف الطرق وعدم زرع الجنائن	10/15/2017 8:48 AM
12	، سوء التخطيط(صرف ممشي جاركينج) الأمن كلاب ضالة	10/15/2017 5:10 AM

ما هي الإيجابيات او السلبيات التي توجد في مجتمعك السكنى؟ Q39

Answered: 11 Skipped: 9

#	RESPONSES	DATE
1	سهولة الوصول اليه .. عدم الازدحام	10/17/2017 9:00 PM
2	الإيجابيات الهدوء و السلبيات عدم توفر المواصلات ا	10/17/2017 6:25 PM
3	الأجانيات هي الهدوء و السلبيات أهمها عدم وجود ثقافة ل احترام الممتلكات العامة وتتمثل في القاء القمامة بالشوارع و السير عكس اتجاه وكذلك ثقافة خليك في حالك	10/17/2017 10:38 AM
4	، الإيجابيات : الهدوء والأمن و الشكل العام للمنطقة	10/17/2017 12:39 AM
5	مجتمع راقى	10/16/2017 7:23 PM
6	الهدوء هو الإيجابية الوحيدة	10/16/2017 1:03 AM
7	مكان راقى ونظيف وقريب من الشوارع الرئيسية	10/15/2017 10:01 PM
8	السلبيات هي عدم الاعتناء بالحدائق والأرصفة -انتشار الكلاب في كل مكان	10/15/2017 9:42 PM
9	السلبيات عدم تحديد مدة للتشطيب او تقيد بمساعت قليل للالك المتطبلابنين في ذلكان	10/15/2017 9:21 PM
10	الهدوء	10/15/2017 8:48 AM
11	بعض السكان يحاول التطوير ، مساحة حدائق ، مراهولة٢٥% ستظهر مشاكل التصميم	10/15/2017 5:10 AM

ما هي مقترحاتك تجاه شأن معين أو لتحسين المجاورة السكنية؟ Q40

Answered: 12 Skipped: 8

#	RESPONSES	DATE
1	تأمين مداخل ومخارج جنوب الاكاديمية - التعاقد من شركة امن على حساب القيلات المحيطة بالمنطقة	10/17/2017 9:00 PM
2	توفير وسائل مواصلات لمن لا يقود سيارة	10/17/2017 6:25 PM
3	أهم شيئ الناس تعرف بعضها أو لا لخلق روح الود ثم تفعل أي أنشطة مثل رياضة المشي الجماعي حول الحدائق واعتقد بعدها سيخلق مجتمع يبدأ بالاهتمام بالمنطقة	10/17/2017 10:38 AM
4	الاهتمام اكثر بالنظافة وتحسين مستوي الطرق وترحيل البوابين	10/17/2017 12:39 AM
5	طرد البوابين	10/16/2017 7:23 PM
6	الاهتمام بالشوارع و الزرع و النظافة و المرور	10/16/2017 1:03 AM
7	القضاء على الكلاب بالخيار المعنيين وتعاون كل الجيران في ذلك	10/15/2017 10:01 PM
8	١ -العمل على تضافة لشوارع والأرصفة بالاهتمام بالانارة ليلا٣-عدم تجول الباعة واستخدام المكروفون للنداء علي البضاعة ٤ - عند البدء في أي عمل انشائي لابد من الانتهاء منه وليس تركه بالسنين دون انهاؤه	10/15/2017 9:42 PM
9	يقوم الجهاز بعمل اجتماعات ربع سنوية لتلقى الاقتراحات و المساعدة في تنفيذها	10/15/2017 9:21 PM
10	تكتاف المقيمين لتحسين الوضع	10/15/2017 11:38 AM
11	الاهتمام بالانارة والزرع والرصف	10/15/2017 8:48 AM
12	عمل سور ، بوابات ،امن،التخلص من حيوانات ضالة ، ش منطقة،	10/15/2017 5:10 AM

Appendix D: Consent Forms

الجامعة الأمريكية بالقاهرة

دراسة بحثية للمشاركة في استثمار موافقة مسبقة

عنوان البحث: الاستدامة الاجتماعية في المجاورة السكنية - إشارة خاصة إلى السياق المصري

الباحث الرئيسي: عالية عمر عزام

البريد الإلكتروني: aliaazzam@aucegypt.edu

الهاتف: 01001999309

انت مدعو للمشاركة في دراسة بحثية عن أهمية الاستدامة الاجتماعية في المجاورة السكنية المصرية وكيفية تطويرها من أجل تنمية عمرانية مستدامة في مصر.

هدف الدراسة هو وضع إطار إرشادي للوصول للاستدامة الاجتماعية في المجاورة السكنية المصرية و فهم و تقييم هذا المفهوم من خلال دراسة تطبيقية علي مجاوره (أ) في حي جنوب الأكاديمية في مدينة القاهرة الجديدة.

نتائج البحث ستنشر في (دوريه متخصصة أو مؤتمر علمي أو ربما كليهما).

المدة المتوقعة للمشاركة في هذا البحث (25 دقيقة)

اجراءات الدراسة تشمل على (مراجعة الأدبيات، الملاحظات و الدراسة الميدانية ، المقابلات ، استطلاعات الرأي عبر الإنترنت)

المخاطر المتوقعة من المشاركة في هذه الدراسة (لا يوجد)

الاستفادة المتوقعة من المشاركة في البحث: (لا توجد فوائد مباشرة أو فورية ولكن من خلال تبادل المعلومات سيساعد البحث على تحسين التخطيط العمراني والسياسات في المستقبل لتكون أكثر استدامة في مصر)

السرية واحترام الخصوصية: المعلومات التي ستدلى بها في هذا البحث سوف تكون (سرية)

" أي أسئلة متعلقة بهذه الدراسة أو حقوق المشاركين فيها أو عند حدوث أي اصابات ناتجة عن هذه المشاركة يجب ان توجه الى (عالية عزام - 01001999309)".

ان المشاركة في هذه الدراسة ماهي الا عمل تطوعي. حيث أن الامتناع عن المشاركة لا يتضمن أى عقوبات أو فقدان أى مزايا تحق لك. ويمكنك أيضا التوقف عن المشاركة في أى وقت من دون عقوبة أو فقدان لهذه المزايا.

الامضاء:

اسم المشارك:

التاريخ :/...../.....

Documentation of Informed Consent for Participation in Research Study

Project Title: Socially Sustainable neighborhoods: Special reference to the Egyptian context

Principal Investigator: Alia Azzam, 01001999309

*You are being asked to participate in a research study. The purpose of the research is [*to support the development of socially sustainable neighborhoods in the Egyptian context as this will eventually contribute to the overall sustainable development of the country*], and the findings may be *published and presented*. The expected duration of your participation is [25 minutes].

The procedures of the research will be as follows [*Literature review, field observations and spatial map analysis, online survey and in-depth interviews*].

*There *will not be* certain risks or discomforts associated with this research.

*There *will not be* direct immediate benefits to you from this research. But you will be contributing in understanding your own neighborhood where you live. By sharing information, the research will help future urban planning and policy making to be more sustainable and considering to social perspectives within the Egyptian community.

*The information you provide for purposes of this research [*is confidential*].

"Questions about the research, my rights, or research-related injuries should be directed to (Alia Azzam) at (01001999309)."

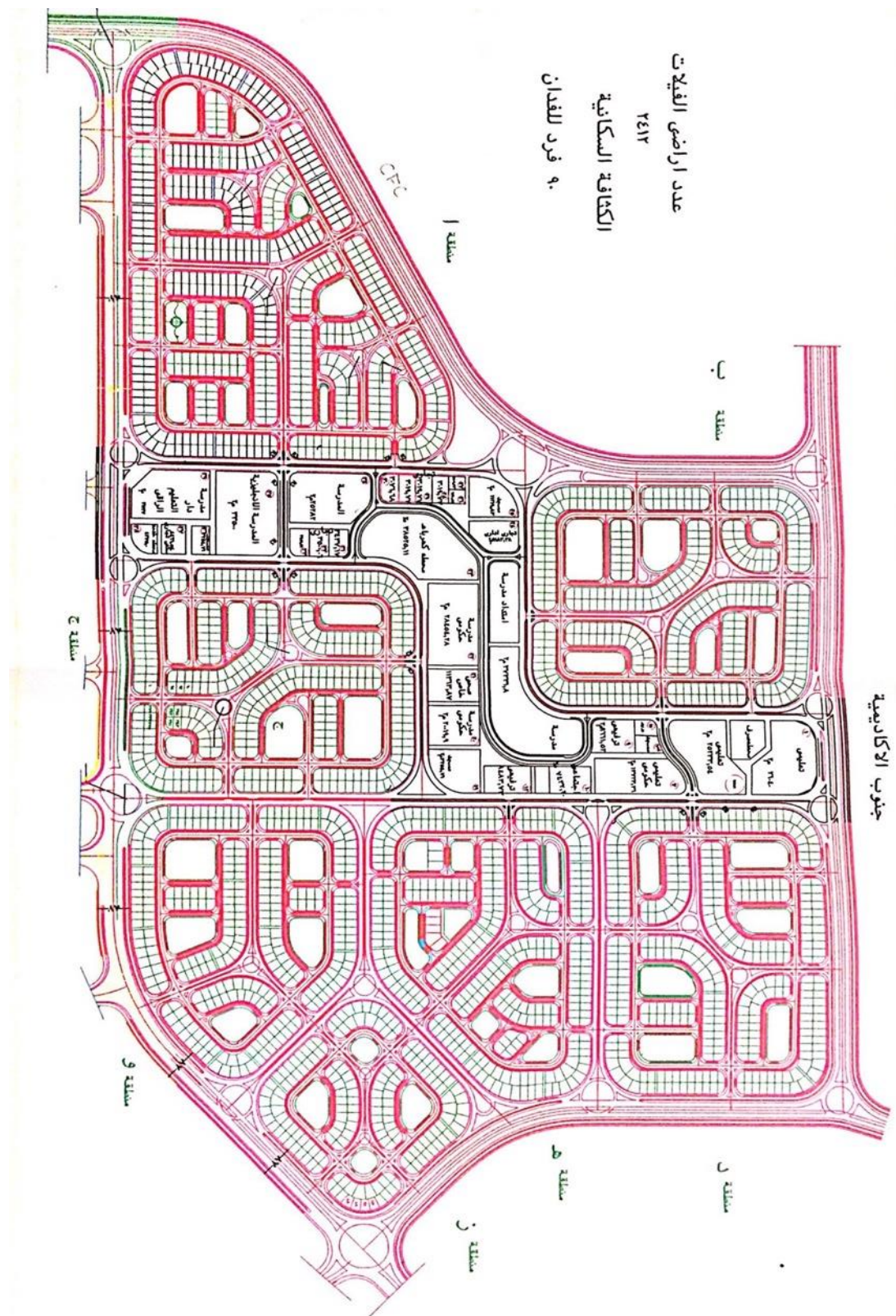
*Participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or the loss of benefits to which you are otherwise entitled.

Signature _____

Printed Name _____

Date _____

Appendix E: Original land-use map from the New Cairo City Agency



Source: (New Cairo City Agency, personal communication, May 24, 2017)



Source: (New Cairo City Agency, personal communication, May 24, 2017)